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STUDY OF THE AVAILABILITY OF LOCALLY PRODUCED OVERHEAD TRANSPARENCIES AND RECOMMENDATIONS FOR NATIONAL DISTRIBUTION.

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A SURVEY AND FEASIBILITY STUDY WAS CONDUCTED TO DETERMINE HOW TRANSPARENCIES MIGHT BEST BE UTILIZED TO BENEFIT A WIDE SEGMENT OF THE EDUCATIONAL ENTERPRISE. ADVICE AND ASSISTANCE WERE RECEIVED FROM CONSULTANTS AND AN ADVISORY GROUP. A POPULATION WAS IDENTIFIED WHICH INCLUDED THE MAJOR PORTION OF THE PROMINENT COMMERCIAL TRANSPARENCY PRODUCERS. A QUESTIONNAIRE WAS DEVELOPED TO SURVEY THE POPULATION, TESTED ON A SMALL SAMPLE, REVISED AND DISTRIBUTED. THE PROJECT WAS PUBLICIZED TO OBTAIN IDEAS AND COOPERATION. SOURCES OUTSIDE THE FIELD OF EDUCATION WERE SOUGHT. RESULTS INDICATED SIX MAJOR CONCLUSIONS--(1) IT IS FEASIBLE TO ESTABLISH A MEANS OF COLLECTION, EVALUATION, DUPLICATION, AND DISTRIBUTION OF LOCALLY DEVELOPED OVERHEAD TRANSPARENCIES, (2) COPYRIGHT AND EDITING DO NOT APPEAR TO BE MAJOR PROBLEMS AS LONG AS CAUTION IS EXERCISED, (3) A SHORT UTILIZATION STATEMENT IS NEEDED TO ACCOMPANY MOST TRANSPARENCIES DISTRIBUTED BY THE CENTER, (4) AN ORGANIZED PROGRAM ON A NATIONAL LEVEL IS NEEDED TO CONDUCT WORKSHOPS, AND EXCHANGE IDEAS AND PRACTICES CONCERNING THE UTILIZATION OF OVERHEAD TRANSPARENCIES, (5) LARGE NUMBERS OF GOVERNMENTAL AND BUSINESS SPONSORED OVERHEAD TRANSPARENCIES WOULD BE USEFUL IN REGULAR CLASSROOM INSTRUCTION, AND (6) BASED ON A MAJORITY OF THE ORIGINAL TRANSPARENCIES SAMPLED, SOME EDITING WOULD BE NEEDED BEFORE DUPLICATION. A 3-YEAR DEMONSTRATION PROJECT IS PLANNED TO MAKE LOCALLY PRODUCED TRANSPARENCIES AVAILABLE TO A LARGE NUMBER OF EDUCATORS. (HB)

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Study of the Availability of Locally Produced Overhead Transparencies and Recommendations For National Distribution

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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A Preliminary Report

March 1966

School of Education
The University of Massachusetts
in Cooperation with
U.S. Department of Health, Education, and Welfare
Office of Education
Washington, D.C.

STUDY OF THE AVAILABILITY OF LOCALLY PRODUCED OVERHEAD TRANSPARENCIES AND RECOMMENDATIONS FOR NATIONAL DISTRIBUTION

The study herein was performed pursuant to
two contracts with the United States Office of Education,
Department of Health, Education, and Welfare,
NDEA Title VII B, # OE-4-16-018 and OE-5-16-017.

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March, 1966

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CHAPTER I

INTRODUCTION

Education took a giant step forward about 1825 when the chalkboard rather suddenly and dramatically changed from a portable, optional and supplementary educational device to a fixed, required and integrated part of the classroom teaching program.

No audiovisual device has yet come close to such overwhelming acceptance. Thirty years of research, experimentation and promotion have failed to make tapes, movies, filmstrips or slides generally incorporated into the classroom procedure. They remain portable, optional and supplementary.

The chalkboard has, at last, a competitor. The overhead projector and its tilted or angled screen show strong tendencies toward becoming standard classroom equipment ready for use at any moment by the teacher or any student with a visual message to communicate to the group. Recent studies conducted by the Bureau of Social Science Research and School Management magazine have pointed out the rapid growth in ownership of this device and, more importantly, the projected purchases of it during the next few years.

A study conducted by the Bureau of Social Science Research showed that in 238 sampled school districts the number of overhead projectors increased 175.5 percent from 1961 to 1964. This was higher than for any other piece of audiovisual equipment. In reporting on this study Godfrey wrote, "The most striking change took place in the ideal for the overhead projector which increased from one unit for every 33 teachers in 1961 to one unit for every 15 teachers in 1964."[1]

School Management magazine[2] reported in its study that 3.08 million dollars was spent on overhead projectors by 52.07% of the nation's school districts in 1962-63. One year later, in 1963-64, the School Management survey reported a total of 5.07 million dollars being spent for overhead projectors by 62% of the nation's school districts. This increase in expenditure of 1.09 million dollars was greater than for any other audiovisual equipment included in the survey.

The obvious extension of this trend is to purchase one overhead installation for each existing classroom, and to specify such an installation for each new classroom. Some schools have already accomplished this goal.

The wide and rapid acceptance of this relatively new teaching device is due to inherent advantages. The teacher faces his class in a room with normal lighting and arrangements. Use of this device and its materials can be easily and completely integrated into the teaching-learning situation rather than added as something special. In addition, most materials for overhead projection lend themselves to individual adaptation by creative teachers.

More than forty companies now produce finished transparencies for purchase by schools for use on the overhead projector. These transparencies started as low volume, high cost items. As the demand increases, they are being printed by low cost, high speed methods, and schools

[1] Godfrey, Eleanor P., "Changes in AV Resources and Aspirations--1961-1964," EDUCATIONAL SCREEN AND AUDIOVISUAL GUIDE, January, 1966, p. 21.

[2] "The Cost of Audio-Visual Instruction 1962-63/1963-64," SCHOOL MANAGEMENT, June, 1964, pp. 82-93.

will soon have individual libraries of selected transparencies for immediate use.

Teachers can easily prepare verbal and symbolic materials of a crude sort (equivalent to chalkboard materials) right in front of their students by means of transparency marking pens and pencils and either sheets or rolls of transparent material. Portions of the material can be pointed to, covered up, erased, underlined or expanded as the class observes the screen and teacher and interacts with him.

Another development which has promoted overhead use is the availability of many paper masters from which teachers can make their own transparencies. Translucent paper with dense black ink on one side permits local duplication onto plastic with any of the transparency-making machines.

School systems and individual schools are also setting up and equipping local graphic production centers so that teachers and/or graphic specialists can produce high quality permanent overhead projection transparencies that are individually tailored to meet some classroom need. Such centers are not yet common, but progress toward establishing them is rapid and outstanding examples can be found.[3] High quality local production requires skilled personnel, facilities and materials.

Many transparencies created originally by teachers or graphic artists for use only in one classroom may be of such quality and value that they could be used by other teachers. It is well known that the creation of a new transparency is difficult. The second or any additional copies are very quick, easy and inexpensive to produce using any of a number of modern reproduction machines.

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[3] Faris, Gene; Molstad, John and Frye, Harvey, IMPROVING THE LEARNING ENVIRONMENT, OE-34031, USOE, Washington, D.C., 1963.

The University of Massachusetts Audiovisual Center has been engaged in a comprehensive program to create good transparencies for use by its professional staff. These transparencies were also used by the staff as they made presentations at professional meetings all over the country. Informal exchanges or distribution resulted from this exposure. It became evident that an important resource for improving education was on hand at many scattered centers with little likelihood of any organized exchange or distribution.

The U.S. Office of Education was approached to support a study to determine how this valuable resource might best be utilized to benefit a wide segment of the educational enterprise. A proposal was prepared and approved.

The remaining sections of this report will describe the specific questions raised concerning the feasibility of establishing a national repository, and how relevant information was collected to answer these questions. Finally, the interpretation of the data and the conclusions and recommendations made concerning the feasibility of a national repository will be discussed.

CHAPTER II

DESIGN AND PROCEDURES

The ultimate purpose of a feasibility study is to acquire all data which contributes to the validity of a particular decision. It is assumed that the wisdom and success of a particular decision will be determined in major part by the relevancy of the data collected.

The feasibility of establishing a national repository and duplication center for locally produced transparencies was the primary question for which information in this study was being sought. Secondary questions concerning technical details, format, size, content evaluation, copyright and need were instrumentally a part of this decision.

The purpose was briefly stated in the initial contract proposal to the U.S. Office of Education, National Defense Education Act, Title VII, Part B., (No. OE-4-16-018 of June 29, 1964). (Appendix A)

> The purpose of this contract is to survey the availability of locally produced overhead transparency materials in the public schools, colleges and universities in the United States and to make recommendations concerning procedures for national distribution.

Two special consultants, Mr. Wilfred Veenendaal of Michigan State University, nationally known graphic artist and educator, and Dr. Jerrold Kemp of San Jose State College, a well known audiovisual consultant and educator, were employed to advise the director on the study. Mr. Veenendaal and Dr. Kemp have continuously advised the director throughout the entire study.

Interviews by Project Director

To ascertain the appropriateness of specific information necessary to make a valid decision on the feasibility of a transparency repository, the research director visited and consulted with audiovisual personnel and teachers at schools and universities throughout the United States. These were individuals known through their writing or speaking to be doing outstanding work in local production of overhead projection materials. The persons and places are listed in Appendix B.

It was felt that personal interviews and a somewhat standardized inspection of actual transparencies and work facilities were essential before deciding on the feasibility of a transparency repository. A series of questions were used in each interview to ensure gathering of complete information. Information collected and observations made by the project director will be reported in Chapter III.

First Conference

The first of the three conferences planned for the two phases of the contract was held at the University of Massachusetts in Amherst on January 25 and 26, 1965. The list of participants appears in Appendix C.

It was the purpose of this conference to assemble fifteen knowledgeable people in the area of transparencies from universities, schools, state departments, suppliers and state associations; to summarize views concerning the general need for exchange; and to identify the populations to be surveyed.

The tentative purposes of a national transparency center were presented as follows:

1. To make copies of high quality, locally produced, overhead projection transparencies available to many educational users at low cost.
2. To give recognition to local producers of high quality transparencies.

3. To stimulate local production of high quality transparencies.
4. To stimulate the establishment of school duplication centers for transparencies. (Only reproducible paper copies would be distributed.)
5. To encourage standardization of transparency format for easy interchangeability of materials.
6. To stimulate experimentation on ways of improving teaching by the use of transparencies and overhead projectors.
7. To provide a clearing house for information about locally produced overhead projection transparencies.
8. To provide a demonstration center for the devices, materials, and techniques for making and using transparencies.
9. To promote the creation and distribution of good commercial sets of transparencies.
10. To promote the inclusion of unrestricted visual materials in textbooks, workbooks, etc., suitable for reproduction as transparencies.
11. To search the files of government and industry for suitable transparencies that could be made available to education.

The first phase contract summary was distributed to conference participants to specify the exact purposes and procedures to be followed.

The project director made a comprehensive report on his reading, correspondence, travels and consultations to date. There seemed to be a tremendous amount of enthusiasm for the general objectives of the proposed transparency center.

Each participant was then asked to comment, based on his advance preparation and the report of the project director.

There was general agreement in this group that many questions needed to be answered and problems solved in order to create a national center that would aid large numbers of classroom teachers through the collection, evaluation, reproduction and distribution of locally prepared materials for overhead projection.

Considerable discussion centered on identification of the population that had actually produced transparencies for local use that might be available and useful to large numbers of additional people. Apparently many people have produced a few good masters with little thought that they might be used elsewhere.

The possible use by educators of governmental, armed services and business sponsored transparencies was discussed. Some of the participants had seen many good examples that should be considered for the proposed center. It was pointed out that these were scattered, sometimes restricted and classified, sometimes in the public domain, and that probably only a small percentage of a large number would actually be acceptable and useful to teachers. It was agreed that the second phase of the contract should include a study of these materials.

Technical and content standards for acceptable materials were mainly concerned with neatness, readability and reproducibility. These could be determined by a competent technical person using criteria to be developed later. Content standards would necessarily involve grade and subject specialists who would determine whether the content was important, accurate and properly arranged. It was planned to include a further discussion of technical standards at a conference of subject and grade specialists in phase 2.

Any actual involvement in the duplication and exchange of transparency masters was sought. Although many have considered it, apparently there has been almost no planned exchange. Informal exchange, usually after conference and convention presentations, has apparently been common.

A report on the national tape duplication project at the University of Colorado was presented to see if lessons could be learned in planning a transparency project. There seemed to be a number of common elements and further communication and a visit by the project director were planned.

Possible competition with commercial producers of finished transparencies was discussed. There are about forty such producers, many rather small. Some competition would probably be inevitable. However, it was emphasized that anything that would tend to make overhead projectors and their use common in classrooms would help all commercial producers in the field. It was envisioned that overhead projectors would soon become regular and perhaps permanent equipment in most classrooms. It was also thought that limitation of the activity to the distribution of translucent paper copies would lessen objections from commercial producers. Such translucent reproducible materials would help the teacher who has a local reproduction center and only annoy the teacher who does not have such local facilities. An important outcome might be the promotion of good local production and reproduction centers. If local production resulted in national distribution, then local production might be tremendously stimulated.

A tentative plan for a phase 2 project and contract was distributed to the conference participants. It was proposed to:

1. Prepare a master list of the population most likely to have acceptable, locally produced, transparency masters.

2. Prepare a questionnaire to determine what masters are available, needed and conditions for use.
3. Try out the questionnaire on nine selected people.
4. Seek advice and counsel from national leaders regarding need, characteristics, and conditions for a national transparency center.
5. Prepare a plan of operation and budget for phase 2.

It was also suggested to the conference participants that phase 2 should accomplish the following:

1. Duplicate copies of the questionnaire.
2. Send questionnaires to the master list of population to be surveyed.
3. Collect questionnaires.
4. Compile and analyze data obtained.
5. Conduct a conference of 15 knowledgeable people to analyze the questionnaire returns and determine whether to proceed with a national transparency center.
6. If a decision is made to proceed, then details of a third phase should be outlined by the conference.
7. Obtain samples of armed services and other government sponsored transparencies for possible use.
8. Establish technical and content standards for acceptable transparencies.

A tentative questionnaire for use in phase 2 was distributed and discussed at length. Many suggestions for inclusions, exclusions and improvements were made and used in preparing the final questionnaire.

The conference fulfilled its primary objective of giving the staff and consultants the information and comments necessary to proceed with the project to improve classroom education across the country.

Selecting the Population

The conferees advised that a survey of people who were known to be producing good materials would be more efficient than a large national, random sampling. The primary question was not one of representativeness, but rather of what actually was available. It was concluded that the time, energy and money needed to survey a large population would reveal few additional persons actually developing overhead transparencies. The survey was directed toward individuals rather than institutions, and the population was to be selected by the following means:

A. Nomination by state AV supervisors

B. Search of relevant periodicals (1959-64)

   1. AUDIOVISUAL INSTRUCTION
   2. AV COMMUNICATIONS REVIEW
   3. KEY NEW EDUCATIONAL MEDIA PERSONNEL 62-63
   4. EDUCATIONAL SCREEN AND AUDIOVISUAL GUIDE
   5. NEA JOURNAL
   6. VISUCOM

C. Nomination by executive secretaries of professional organizations (Appendix K)

D. Nomination by audiovisual training departments

E. Contacts by staff and consultants

F. Self-nominations from announcements in pertinent periodicals

G. Nomination by commercial companies producing materials

Relevant Data to be Sought

Before the questionnaire could be developed, it was necessary to formulate the questions which needed to be answered by the selected population. These appeared to be:

1. From this selected population, how many transparencies have been developed, in what subject areas, and at what instructional levels?
2. What equipment is being used to process locally developed transparencies?
3. In what size and format are the locally developed transparencies?
4. Are originators willing to loan (temporarily) and permit duplication and distribution of their masters?
5. Will originators permit editing of masters if approval is obtained?
6. Will originators permit a non-profit organization to copyright material to prevent unauthorized reproduction?
7. What size and format is preferred for distributed materials?
8. What are the general comments on needs and procedures for such a repository?

A questionnaire was used to collect information about existing materials, equipment and opinions concerning exchange. Every attempt was made to prepare a questionnaire which would be easy to complete and return, and yet provide the needed information.

Dr. Ronald Fredrickson, a survey specialist, was employed to develop the questionnaire and to conduct the survey. A full-time graduate student in the audiovisual center of the University of Massachusetts, Wilfred Thibeault, was employed to assist in the study and develop evaluative criteria for the selection of sampled, locally produced, overhead transparencies.

The questionnaire was developed, presented to the consultants, and revised according to their criticisms. Prior to final printing the questionnaire was mailed to nine persons randomly selected from the population in order to obtain their response and evaluation. Their suggestions were considered and revisions were made. After final review, the questionnaire was printed and mailed by first class mail to each member of the selected population. (Appendix J)

News Media

In order to disseminate information about the project, invite comments and self nomination as a producer of overhead transparencies, a news release was prepared and sent to all periodicals included on the National Education Association list of pertinent periodicals. A special article written by the director of this study and the survey specialist appeared in EDUCATIONAL SCREEN AND AUDIOVISUAL GUIDE.[4] The widest possible dissemination was given to the idea and project in relevant periodicals. A letter received from an interested person in the Phillipines indicates the breadth of interest and inquiry.

An attempt was made to keep private transparency producing companies informed of the project, and they were represented at all conferences. It was emphasized that the project was intended to stimulate local production and to use creative teaching materials on the overhead projector, and not to create a substitute for commercial materials.

Follow-up Conferences

After the completion of the survey, two invitational conferences were held to study the results and assist in determining whether a

[4] Fredrickson, Ronald and Wyman, Raymond, "The Overhead Revolution," EDUCATIONAL SCREEN AND AUDIOVISUAL GUIDE, November, 1965, pp. 24-25.

national repository was feasible and, if so, how it should be established.

One of these two-day invitational conferences was attended by fifteen nationally known subject matter specialists who may or may not have utilized the overhead projector. Most participants were nominated by their respective professional organizations, and reflected all instructional levels -- elementary, secondary, and higher education. A wide variety of subject areas was also represented.

The final conference was attended by most of the audiovisual experts who had been involved in the first conference. All of the consultations and data were reviewed, and recommendations were made.

Summary

The design and procedures for this survey and feasibility study were carefully worked out with the advice and assistance of a large number of well qualified people representing many competencies and areas of the country.

A population including most of the best local transparency productions was identified.

A questionnaire to survey the population was prepared, tested on a small sample, revised and printed for distribution.

Plans were made to publicize the project and to invite people to comment and to nominate local producers of material to be included in the survey.

Sources and examples of valuable transparencies in business, government agencies, armed services and private schools were sought.

Every effort was made to obtain all information necessary to prepare recommendations concerning a project which would make the efforts of some local production centers available to a large number of educators through the establishment of a national center to collect, evaluate, duplicate and distribute reproducible copies.

The results of this undertaking are reported in the next chapter.

CHAPTER III

REPORT OF DATA COLLECTED

Data collected to answer the questions described in Chapter III are divided into five main sections.

1. Interviews conducted by project director
2. Report of questionnaire survey
3. Evaluation of representative transparencies
4. Subject specialists' conference
5. Follow-up conference

Interviews Conducted by Project Director

A productive way to collect complete data is to travel to the experts who are most knowledgeable in the field. It is then possible to meet and talk with associates, observe samples of work that is being done, facilities used, and explore ideas. Travel was an essential element in the plan to collect expert opinion and assess the actual situation in the transparency field.

A kit of materials and questions was prepared for use on all of the trips in order to obtain uniformity in presentation of the project. The list of questions appears as Appendix D. The kit included twenty samples of masters produced at the University of Massachusetts, reproducible intermediates produced from them by a variety of processes, and transparencies made in a variety of ways from the intermediates. A considerable exchange of materials resulted from the visits as both parties saw materials that would be useful to them.

Commercial producers of projectors and transparency making materials were consulted in order to obtain their reactions to the project and their suggestions about form, standards, materials, techniques, etc., for good and easy reproduction.

Producers of commercial transparencies were also consulted. Some felt that anything which would help to make overhead projectors common in classrooms would help them. On the other hand, some appeared concerned about competition with their products, and others felt that their business would be harmed. The assurance that the project contemplated only materials for making transparencies, rather than for finished transparencies, did not seem to mollify all commercial producers.

Professional and trade associations were visited and consulted. The Department of Audiovisual Instruction, National Association of Educational Broadcasters, Society of Motion Picture and Television Engineers, Educational Media Council, National Audiovisual Association and the National Association for Industry-Education Cooperation were included.

University and college audiovisual centers are producing large numbers of transparencies. Ohio State University, Wake Forest College, Appalachian State Teachers College, San Jose State College, University of Texas, Michigan State University, Miami University (Coral Gables), Miami University (Ohio), Florida Atlantic University, Arizona State University, University of Colorado, University of Nebraska and the University of Hawaii appear to be most active in transparency production.

A relatively small number of city school systems have well developed transparency making programs. Minneapolis, Minnesota; Norwalk, Connecticut; Milwaukie, Oregon and Chicago, Illinois appeared to be of particular note. City audiovisual directors were consulted at scheduled interviews.

Two state education departments, Texas and Oregon, appeared to be particularly concerned about overhead projection. The Texas Education Agency has produced and distributed a large number of excellent transparencies at the secondary level with federal support.

Private and parochial school leaders were asked for the names of schools and people very active in visual education. Apparently there is much interest but little activity as yet. Only Andover Academy in Massachusetts and Kamehameha and Punahou in Hawaii were recommended for visits. Outstanding work was found at each one.

The U.S. Navy Center at Boston and the U.S. Army Center at Fort Devens, Massachusetts, were visited. Both have large numbers of transparencies, and although only a small percentage would be suitable for school use, the number would still be large.

NASA and the Missile School at Huntsville, Alabama, have extensive libraries of visual materials. Some are presently in overhead form, and others could be put into overhead form very easily. As with the military materials above, the small percentage directly applicable to education would still represent a substantial number of transparencies. There may be some problems connected with release of these materials for duplication and civilian use, but no real obstacles were identified.

The Social Security Administration (Baltimore) sent samples of its transparency masters from which good transparencies were made. The Captioned Films for the Deaf agency has a wealth of visual materials which could be made into overhead transparencies. National Security Seminar transparencies could be copied and made available. There are many other governmental agencies which are thought to have valuable materials that might be made available for use in the operational phase of this project.

To present a summary of the responses accumulated through the interviews conducted by the project director is a complex task. The places and experts visited appear as Appendix B, and the major findings are listed below.

1. Nearly everyone thought that a national center to collect, evaluate, duplicate and distribute locally produced transparency materials was a good idea.
2. Many good materials were found to be scattered throughout the nation.
3. There have been very few plans for the duplication and exchange of transparencies put into operation, and hence, there has been very little experience with exchange.
4. The names of many local producers of masters were collected, and these persons were incorporated into the population to be surveyed.
5. Obtaining permission to correct or improve transparency masters before duplication is questionable. Most producers would permit such changes, but a few indicated that they would absolutely not permit changes. The conferences also dealt with this question, and conclusions reached are reported subsequently in this report.
6. In order to avoid direct competition with commercial transparency producers and to promote local adaptation of materials in well equipped centers, the translucent paper reproducible

copies were advised by the persons interviewed. Classroom teachers and media personnel who have poorly equipped centers would prefer completed transparencies ready for use.

7. Some type of catalog or descriptive material would be necessary in order to permit easy selection without the viewing of the masters themselves.
8. About half the people interviewed desired some sort of guide or utilization notes. Others said bluntly that any teacher who is prepared to teach the subject ought to be able to understand any of the materials likely to be distributed. Many possible ways of including brief notes on, or attached to, the transparency were discussed.
9. The copyright question was apparently settled by a USOE directive placing all federally supported materials in the public domain. The question appeared on the questionnaire and is discussed elsewhere.
10. Most, but not all, people who have produced good transparencies would be happy to have others use their materials provided that they received some type of credit line. The analogy to authored articles was mentioned a number of times.

Report of Questionnaire Survey

A selected population of 556 local transparency makers was obtained using a number of means outlined in Table 1. State department of education audiovisual directors theoretically were in the best position to know of persons in their state who were developing their own transparencies. This appeared to be the case, at least relatively speaking, since they nominated the largest group of local transparency

TABLE 1

NUMBER OF NOMINATED PERSONNEL IN THE UNITED STATES ACTIVE IN OVERHEAD TRANSPARENCY PRODUCTION BY SOURCE OF IDENTIFICATION

SOURCE	NO. PERSONNEL NOMINATED FOR SURVEY
1. State AV Directors	198
2. Contacts by Director of Study	113
3. Chairmen, AV Training Departments	91
4. Mass Media, Self Report, Business	69
5. Search of Relevant Periodicals	50
6. Executive Secretaries, Professional Organizations	35
TOTAL	556

producers.

A five year review of relevant periodicals indicated that a number of teachers and audiovisual specialists who had created their own transparencies had written about them. The increase in use of media and audiovisual equipment in education has caused many professional organizations to appoint special committees to study and provide resources to members of their organization.

In the last few years training departments of colleges and universities have offered workshops and courses to aid teachers in producing their own transparencies. Teachers who had acquired the skill and had continued making transparencies for their own classes were selected by the college teachers of these training courses. It was assumed that a carefully selected population would provide a greater proportion of the locally developed transparencies in the United States than a national random sampling from which a statistical projection would be made subject to the limitations of projection and sampling. Preliminary consultation revealed that local production was being done at specific places that might have been overlooked had the survey depended upon randomness to discover these places. Based on interviews conducted by the director, local production did not appear to be a general rule.

Categorization of the total population by instructional level and staff position is reported in Table 2. Twenty-seven persons in the "unspecified" category either left the nature of their position blank or the exact nature of their position unclear. The remaining number consisted of 346 audiovisual staff members and 183 teachers. The predominant number of the selected population, 311, came from the elementary and secondary areas as compared with 218 in higher education. While there are 183 teachers identified as creating original transparencies, 346 creators of local transparencies were found on audiovisual staffs.

TABLE 2

DESCRIPTION OF POPULATION BY
INSTRUCTIONAL LEVEL AND PROFESSIONAL TITLE

PROFESSIONAL TITLE	INSTRUCTIONAL LEVEL Elem. and Secondary	 College	 Number
Audiovisual Staff	213	133	346
Teacher	98	85	183
Unspecified	--	--	27
TOTAL			556

The researcher cannot assume that the selected population of 556 is conclusive. However, continued solicitation and verification with audiovisual supervisors and state leaders brought only repeat nominations in the final stages of the study. It would appear that a considerable proportion of persons who are making their own transparencies has been selected. However, even with the writing of this final report, a few new persons are being discovered who have made their own transparencies, and one cannot conclude that the selected population of 556 is 100% complete.

Upon receipt of the completed questionnaires, an acknowledgement was sent to each respondent. First and second reminders were mailed to subjects who had not responded following the requested deadline date of submission. The percentages of returned questionnaires by instructional level and nature of position are reported in Table 3.

TABLE 3

NUMBER AND PERCENTAGE OF PERSONS WHO RETURNED QUESTIONNAIRE BY INSTRUCTIONAL LEVEL

	ELEM AND SEC SCHOOLS		HIGHER EDUCATION		UNSPECIFIED	GRAND TOTAL
	Teacher	AV Specialist	Teacher	AV Spec.		
Number Who Received Questionnaire	98	213	85	133	27	556
Number Who Returned Questionnaire	57	125	42	86	18	328
Percent of Returned Questionnaires	58%	59%	49%	65%	67%	59%

It was expected initially that the rate of return would be higher than the 59 percent finally tabulated on the deadline date some two and one-half months after the mailing. Preliminary telephone calls and letter communication with non-respondents revealed that many shared an office or school and were in essence responsible for the same collection of overhead transparencies that already had been reported. A check was made to ensure that this had not been done on already submitted questionnaires. The 59 percent is probably much better than it appears since many sharing the same office or institution submitted only one questionnaire. Elimination of certain nominees before mailing the questionnaire because of this reported overlap would have meant taking definite risks by basing such decisions on institutional addresses or other incomplete information.

Geographical distribution of persons who responded to the survey may be seen in Table 4. It is significant to note that persons responded from throughout the United States and there does not appear to be a single regional concentration of respondents. The two most contributing areas are East Northcentral which contains the states of Michigan, Wisconsin, Ohio, Indiana and Illinois; and the North Atlantic region which contains New York, Pennsylvania, New Jersey, and Delaware.

TABLE 4

GEOGRAPHICAL LOCATION OF PERSONS WHO RESPONDED TO THE QUESTIONNAIRE

REGIONS	NUMBER	PERCENT
New England	26	8
North Atlantic	68	21
Middle Atlantic	37	11
Southeast	16	5
East Northcentral	75	23
West Northcentral	37	11
West Southcentral	21	6
Mountain	9	3
Pacific	39	12
TOTAL	328	100%

The smallest contributing region was the Mountain area containing the states of Montana, Idaho, Wyoming, Utah, and Colorado. The geographical distribution in part appears to reflect demographical statistics and not the lack of effort and production by individual teachers and audiovisual personnel in the less populated areas.

A total of 261 (80 percent) of the 328 who returned the questionnaire said they or members of their staff made original transparencies for the overhead projector by some method involving a master that would permit additional copies to be easily produced. The remaining 67 stated that neither they nor their school staff made original transparencies.

The means by which the population was selected appears justified since 80 percent of those nominated were actual producers of overhead transparencies.

A total of 91,799 locally developed overhead transparencies were reported by the 261 persons who indicated local production in the questionnaire. The percentage of transparencies by institutional level is reported in Table 5.

TABLE 5

PERCENTAGE OF LOCALLY DEVELOPED TRANSPARENCIES BY INSTITUTIONAL LEVEL

INSTRUCTIONAL LEVEL	NUMBER	PERCENTAGE
Elementary	17,132	19
Secondary	49,322	53
Higher Education	25,345	28
TOTAL	91,799	100%

Elementary - Teachers and audiovisual personnel involved in elementary schools reported a total of 17,132 original transparencies.

The number of transparencies by subject area for the elementary level is shown in Table 6. One might have expected language arts, because of its predominance in the elementary curriculum, to contain the highest number of transparencies; however, science has the largest number of original transparencies. Science was followed by language arts, social studies, and arithmetic, in that order.

TABLE 6

NUMBER OF ORIGINAL TRANSPARENCIES REPORTED BY SUBJECT AREAS ON ELEMENTARY LEVEL

SUBJECT AREAS	NUMBER	PERCENT
Science	4,113	24
Language Arts	3,649	21
Social Studies	3,525	21
Arithmetic	2,670	16
Music	1,013	6
Art	692	4
Special Education	477	3
Physical Education	425	2
Foreign Languages	336	2
Others Public Relations - 150 Industrial Arts - 45 Inservice Training - 37	232	1
TOTAL	17,132	100%

Secondary - Original transparencies produced in the secondary area cover a wide range of subject specialties. The results are reported in Table 7 in rank order according to numbers reported.

TABLE 7

NUMBER OF ORIGINAL TRANSPARENCIES REPORTED BY SUBJECT AREAS AT SECONDARY LEVEL

SUBJECT AREAS	NUMBER	PERCENT
Biology	5,877	12
History	3,539	7
Geometry	3,419	7
English	3,279	6
General Science	2,708	5
Chemistry	2,702	5
Mechanical Drawing	2,547	5
General Mathematics	2,434	5
Algebra	2,008	4
Physics	2,006	4
Foreign Languages	1,932	4
Industrial Arts	1,706	3
Geography	1,693	3
Earth and Space Science	1,582	3
Reading	1,128	2
Bookkeeping	880	2
Typing	779	2
Art	765	2
Civics	710	1
Home Economics	691	1
Shorthand	691	1
Guidance	674	1
Music	615	1
Humanities	610	1
Driver and Safety Education	608	1
Trigonometry	576	1
Physical Ed., Health	565	1
Problems of Democracy	433	1
Economics	401	1
Inservice Training	359	1
Special Education	306	1
Others Psychology - 269 Library - 163 Office Machines - 153 Calculus - 123 Sociology - 119 Speech, Theatre - 117 Agriculture - 97 Marketing - 22 Religion - 20 Journalism - 11 Business Law - 5	1,099	2
TOTAL	49,322	96%*

* Does not equal 100% because of rounding error.

Distribution of locally produced transparencies by departmental areas in the secondary schools may be seen in Table 8. Science, with 14,875 transparencies doubles that found in any other department with the exception of mathematics with 8,560 and social studies with 7,505, the latter being slightly over half of what was counted in science.

TABLE 8

NUMBER OF REPORTED ORIGINAL OVERHEAD TRANSPARENCIES BY SECONDARY SUBJECT AREAS DEPARTMENT

DEPARTMENT		NUMBER	PERCENT
Science		14,875	30
Mathematics		8,560	18
Social Studies		7,505	15
English/Languages		6,467	13
Technical Programs		4,958	10
Business Education		2,530	5
Fine Arts		1,380	3
Miscellaneous		3,047	6
	TOTAL	49,322	100%

If transparencies were available in proportion to the frequency of the subject taught, one would expect that English would rank high. However, this is not the case as it ranks below all other major subjects in number of transparencies reported. There does appear to be a positive agreement between the number of available locally produced transparencies in certain categories and the purchase of commercially produced transparencies in the same subject areas.

Higher Education - Even though the commercial companies have not supplied a large number of overhead transparencies at the college level, still a large number have been developed by teachers and audiovisual personnel in institutions of higher education. A total of 25,345 was reported with the largest concentration of overhead transparencies in the areas of education, physical sciences, and social and behavioral science. The particular findings are reported in Table 9 by customary departmental and school divisions. The medical category should be qualified more than any other group. Schools of medicine are generally independent of the university in support services so the report of 317 originally produced transparencies should not be seen as an inclusive number representing availability in medical schools.

TABLE 9

NUMBER OF ORIGINAL TRANSPARENCIES REPORTED BY AREA IN HIGHER EDUCATION

SUBJECT AREAS	NUMBER	PERCENT
Education	6,530	26
Physical Sciences	6,265	25
English/Language	2,643	10
Social and Behavioral Science	2,595	10
Natural Sciences	2,397	9
Engineering	1,352	5
Business Administration	1,094	5
Humanities	867	3
Arts	556	3
Medical Education	317	1
Agriculture	314	1
Others	415	2
TOTAL	25,345	100%

Equipment - All persons questioned were asked to indicate the degree to which they used various types of equipment to make their overhead transparencies. Technical journals revealed five particular kinds of equipment. Brand names were strictly avoided. Equipment utilized is ranked in Table 10 in order of frequency utilized.

TABLE 10

PERCENTAGE OF RESPONDENTS USING PARTICULAR EQUIPMENT IN PRODUCTION OF LOCAL OVERHEAD TRANSPARENCIES*

EQUIPMENT	USE REGULARLY	HAVE ACCESS BUT LIMITED USE	NOT AVAILABLE
Diazo (ammonia process)	47	13	2
Electrostatic	4	12	13
Heat Process (thermo)	55	1	1
Photo Copy (diffusion transfer)	24	18	2
Photographic	21	20	2

* (Percentages exceed 100% because more than one piece of equipment usually was checked by the 261 persons who indicated production of overhead transparencies)

Heat process equipment is the most regularly used piece of equipment followed by diazo, photo copy, photographic, and finally electrostatic which is utilized in a very small number of cases.

Format - Besides equipment availability for producing locally developed transparencies, format and size are important for the consideration of a national repository for original transparencies. Table 11 indicates from the total of 91,799 transparencies approximately how many of the locally developed transparencies are in each particular size and format category. The 8" high by 10" wide is by far the most

TABLE 11

PERCENTAGE OF LOCALLY DEVELOPED TRANSPARENCIES IN A PARTICULAR SIZE AND FORMAT

SIZE AND FORMAT	NUMBER	PERCENT
8" high x 10" wide	52,908	58
10" high x 8" wide	33,121	36
10" high x 10" wide	3,426	4
7" high x 7" wide	9	
Size Not Indicated	2,335	2
TOTAL	91,799	100%

popular size and format. A national repository of overhead transparencies should consider the predominance of this particular size and format before distribution of the locally made transparencies.

Temporary Loan - Plans to establish a national repository would all be for naught if the local producers were not willing to loan (temporarily) their masters to permit duplication and distribution to a larger population of users. This question was asked of each of the respondents. Tabulation of the responses is reported in Table 12.

TABLE 12

RESPONSES GIVEN BY RESPONDENTS TO THE QUESTION, "If a non-profit national repository for duplication and distribution of overhead transparencies is established, would you be willing to loan (temporarily) your masters and permit duplication and distribution?"

RESPONSES	NUMBER	PERCENT
Yes	153	59
Yes, With Permission	40	15
No	18	7
Miscellaneous Limitations	18	7
Need Royalty	4	1
Left Item Blank	28	11
TOTAL	261	100%

Fifty-nine percent of the selected population who returned the questionnaire saying they had developed original transparencies said yes they would temporarily loan their transparencies. Fifteen percent said they would loan temporarily with permission of the originator. Only seven percent said they would not temporarily loan their transparencies to a repository.

The question gave the individual an opportunity to list any limitation he, as originator, might see in a temporary loan of his transparencies. Approval by the author was the most important limitation. The largest "miscellaneous limitation" was a suitable means of giving the originator credit. It is interesting to note that only four percent expressed a need for payment. The other limitations mentioned were smaller in number and not of apparent consequence.

Editing Permitted - Preliminary field inspections by the project director had indicated a need for editing of some locally developed transparencies in order to maintain high technical and content quality for distribution. This appeared to be a crucial question. Local producers of overhead transparencies were asked if they would permit editing if final approval were obtained from the originator. Nearly all, 75 percent, said yes while only 3 percent said they would not permit editing. Twenty-one percent left the question blank and one percent raised questions.

Copyright - While the copyright question is somewhat in a state of flux due to the pending copyright bill before the U.S. Congress, consultants and potential contributors to a national repository had indicated an ambivalence on the question of copyright and the desire that their efforts be protected. So the question was asked in the survey whether the respondents would permit a non-profit national repository to copyright their materials in order to prevent unauthorized reproduction. Fifty-four percent states yes to the question but fourteen percent said no. Eighteen percent gave no response to the question. Explanations were given by many who responded negatively or offered qualification to giving permission for copyright. The largest objection or qualification which was given by nine percent was that they did not want to give up any right to copyright. A very small number of others either wanted more information or offered more qualification.

Future Needs of Repository - Producers of overhead transparencies were asked in the questionnaire what material, size, and format they preferred in order to obtain materials from a repository. Whether a repository should depend upon local reproduction facilities or provide the transparency itself appeared to be an important question if the repository is considered feasible. Two alternatives were presented to all respondents and they replied as follows:

- Seventy-three percent prefer to obtain translucent paper copies from the repository for local transparency reproduction.
- Thirteen percent prefer to obtain unmounted transparencies, even at higher cost, from a repository.
- Fourteen percent left the item blank.

Preferences for size and format are expressed in Table 13. The 8" high x 10" wide was the majority preference of those who responded to the question. The 10" x 10" size was unintentionally omitted from the choices provided. No one added it to his response.

TABLE 13

PREFERENCES OF RESPONDENTS FOR THE SIZE AND FORMAT DESIRED IN USE OF A REPOSITORY OF OVERHEAD TRANSPARENCIES

SIZE AND FORMAT	NUMBER	PERCENT
8" high x 10" wide	202	62
10" high x 8" wide	92	28
7" high x 7" wide	3	1
Not Indicated	31	9
TOTAL	328	100%

The final item in the questionnaire asked for any additional comments concerning the need and procedures for a repository of locally made overhead transparencies. A large number of the respondents made comments; some of them at considerable length. A review of the comments by the researchers indicated--

1. 230 were in favor of the establishment of a repository
2. 6 were against establishment of a repository
3. 10 were impartial
4. 9 were skeptical
5. 14 raised questions
6. 59 made no comment

328 TOTAL

A systematic sample of these comments is quoted in Appendix E. Somewhat typical of those who responded favorably was the comment, "I feel that it would provide needed impetus to overhead projector utilization. Many smaller, understaffed schools would benefit greatly from having access to such a repository." A more skeptical view was expressed by an audiovisual director, "Many of these materials are very closely guarded by the user as unique to his talents and presentation. Our previous experience with creative work of faculty would tend towards discouraging such a project without protection and reward for originator of the materials. Also some portion of the visual may already be the product of others that required restriction to local use."

A classroom teacher who was marketing his original transparencies through a commercial concern indicated his ambivalence by, "A non-profit national repository sounds like a very good idea from the teachers' point of view (but not mine, I'm afraid)."

Evaluation of Representative Transparencies

It was never intended to collect and duplicate whatever transparencies local production centers had produced, but rather to select from among many the few that would be of most value to others. Selection must involve criteria of some kind, and this was assumed to be a major function of the proposed center.

In order to obtain a sample of the transparencies that were reported on the completed questionnaires for evaluation by the project staff and the two conference groups in December, 1965, telephone calls were made in November. (Appendix L)

The survey specialist and research assistant considered all of the questionnaires returned at that time, representing more than 50,000 masters, and worked out a sample based on geography, grade level, subjects and size of the repository. These producers had all indicated that they had masters and that they were willing to make them available to others for duplication and use. However, their quality was unknown and actually picking out and mailing materials is quite different from filling out a questionnaire.

Each of the twenty-five individuals selected was telephoned, reminded of the project, and asked to mail five examples randomly selected from a designated grade level and subject that appeared on his completed questionnaire. Every person called expressed enthusiasm for the project, and every group of materials came in to the project without delay, and in good condition.

The project staff looked at each new package of materials with considerable interest. The marks on questionnaires turned into actual materials for use with 100% return. It was a satisfying experience for the staff. These actually were valuable materials ready and waiting for a project to make them available to many other potential users.

The variety of marking devices and base materials used by the various centers in producing materials was great. The majority of the materials sent consisted of black lines on translucent paper. These were designed for reproduction into transparencies by the diazo process and no difficulties were experienced in making copies. Some had black lines on opaque paper and these were reproduced on film with an ordinary office infra-red copy machine. Others presented real problems in copying by any but photographic means. Some used colored lines, some used inks and other markers directly on acetate, some sent white line heat process films, etc. One center sent outstanding examples of completely prepared and mounted transparencies.

All masters that could be copied without photography were copied and the masters were returned with thanks. Those that could not be easily copied were held for direct use at the conferences and the owners so advised.

The next problem arose in trying to mount the transparencies for easy projection. Some indicated colors, overlay positions and included registration marks. Many did not, and there was no standardization.

It was obvious that with only local production and reproduction, many systems had been developed without regard to standardization for easy exchange.

Evaluation and acceptance of materials for duplication and distribution can be divided into four areas for consideration:

1. Can the material be reproduced easily and effectively?
2. Can the material be easily read?
3. Is the content accurate and true?
4. Will it be effective in teaching?

The first two questions can be answered by technical or graphics personnel applying standards for line width, line density, light blocking ability, letter size, etc. The two consultants are national leaders in the graphics field and provided guidelines for reproducibility and readibility.

From experience with the submitted samples, it was obvious that minor graphics changes would improve the technical quality of the transparencies. There was some question about how much of this should be done without the consent of the originator.

The last two questions must be answered by subject-grade specialists in the particular areas for which the teaching materials are intended. The subject specialist conference was planned specially to consider problems of accuracy, teaching effectiveness and academic acceptance of the transparency.

The research assistant considered available checklists and other instruments for evaluating still visual materials. They seemed to be of limited value.

After reading and consulting in the area of visual evaluation, it seemed that subject matter specialists could make the best evaluations with some sort of rating sheet.

For the subject specialists' conference, a tentative evaluation sheet for transparencies was prepared from ideas gathered from many places and people. During the conference this instrument was used informally with many of the samples projected. It was not acceptable to the group. They felt that a simple one-page check sheet with few categories and less than a six point scale was needed. The conferees provided many suggestions for evaluation at the conference and later in letters.

Mr. Wilfred Veenendaal, consultant to the project and chairman of the DAVI Graphics Group, also provided much valuable assistance.

From all sources, a one-page checklist was prepared for use by subject grade evaluators. It appears as Appendix F. Evaluation with consequent acceptance or rejection is always difficult, but a rating sheet and qualified raters seemed feasible and acceptable.

Subject Specialists' Conference

It was determined early in studying the feasibility of a national transparency center that academic acceptance on all levels would be an essential element. Questions concerning transparency content accuracy, effect on teacher creativity, accompanying notes, and procedures for using a national transparency center could be best answered by teachers and subject matter specialists themselves.

A special invitational conference was held in December, 1965. The fifteen conference participants representing a wide variety of subject areas and instructional levels were asked to come to the University of Massachusetts for a two-day conference. Some familiarity with visual education was sought, but not required, so that it would not be necessary to cover basics of visual education before discussing the problems posed by the project.

Selection of fifteen subject matter specialists was primarily done through the various professional organizations. A secondary means of selection was through consultation and interviews conducted by the project director.

Each professional organization or association representing a subject area represented in the Director of Educational Associations was written a letter explaining the study and asking for nominations of subject matter specialists. (Appendix G)

There was immediate and enthusiastic response. Many hours were spent in order to select fifteen people who met the criteria and who would as a group provide the diverse grade and subject differences needed. A number of disciplines had only one or two people to recommend and they often had schedule conflicts. The group finally selected and available turned out to be a remarkably able and cosmopolitan group.

In order to have informal comments on competition, copyright and publication problems when needed, a representative from the American Textbook Publishers Institute was invited to observe the conference without perquisite.

The list of conference participants appears as Appendix G.

The conference started with a presentation by the project director on the status of overhead projectors and projection techniques and the tremendous possibilities for improving classroom instruction through its use. Many samples of materials from commercial and school sources were demonstrated. The point was made that this is not just another audiovisual machine that might sometimes be located, moved into the classroom, set up, adjusted, used, dismantled and returned; but rather, that this is a machine that belongs permanently in the classroom to be used regularly with a wealth of commercial and locally produced and extemporaneous materials.

The graduate assistant for the project demonstrated a large number of transparencies reproduced at the University of Massachusetts from masters that had been requested through a sampling technique from the 328 individuals who had returned questionnaires.

Samples of materials from private schools, government agencies, industry and the armed services were also shown.

Some of the samples obtained through the national survey compared poorly on a technical basis with commercial materials, but a tremendous reservoir of creative idea material was obviously available. Some thought that an idea exchange might better result than a transparency exchange. It was pointed out that the average transparency located through the questionnaire was probably of marginal technical quality, but that the actual numbers of technically good masters was still high and worth seeking out for duplication.

A brief demonstration of common local transparency preparation equipment was made to be sure that all participants understood how transparencies might be made from materials collected, duplicated and distributed.

The project director then summarized the information gathered during the project to date. He made the following points:

1. There is general enthusiasm among potential contributors and users for a national transparency center.
2. There are quantities of transparencies that have been created by individual overhead users that would be valuable only to them.
3. There are smaller numbers of masters scattered around the country that have the technical and scholarly qualities that could benefit many teachers through a national center.
4. There are enough of these good masters available to establish a very valuable center.
5. A growing number of local centers are employing graphic artists to produce high quality transparencies.
6. There is reproduction equipment in most audiovisual centers.
7. The overhead projector is growing very rapidly in use and in projected plans for use.
8. There is no easy solution to the questions about copyright, and the best solution may be to operate in the public domain.
9. Much interest has been expressed in regional transparency centers.
10. Most makers of "sponsored" teaching materials seem hardly aware of the overhead revolution.
11. Teachers would prefer finished transparencies from a national center but audiovisual specialists prefer masters.

Paul Schupbach, Director of the Great Plains Regional Instructional Television Library, and consultant for the conference, explained procedures used in location, accepting and distributing television materials. A number of similar problems and solutions were outlined.

Problems concerned with the technical selection and duplication of masters were discussed by Dr. Jerrold Kemp and the project research assistant, Wilfred Thibeault. It will apparently be fairly easy to establish readability and reproducibility standards to apply to submitted materials.

The problem associated with content acceptability may be more difficult to solve than expected. Numerous errors in fact, judgement, and esthetics were found by the subject matter specialists in the samples projected. It was pointed out that content must be checked by a person or persons with considerable knowledge in the field represented by the transparency.

A checklist for content evaluation of submitted transparencies was distributed and discussed. The development of a suitable checklist is reported elsewhere in this report.

After considerable discussion, a three hour session was devoted to reactions by each of the participants based upon his experience before and during the conference. The reactions filled thirty single-spaced pages when transcribed from the tape. After returning home, twelve of the conferees sent letters with comments. The following summary attempts to relate the suggestions to the overall plan of operation.

1. There was a general air of enthusiasm for the general idea of a national center that would locate high quality locally produced overhead projection transparencies and make copies available to other teachers who would like to use them. It should be pointed out that these people were subject specialists who had little prior knowledge of the project and most of them had

had very little acquaintance with overhead projectors and transparencies. A common reaction was, "If this is what can be done, let's do it."

2. Subject matter specialists thought a collection and distribution center should extend beyond the three years proposed by the project director. It would be difficult to terminate such a project, and it was doubtful whether the need would diminish in such a short period. It might be possible to turn its function over to regional centers. There might be other valuable functions which should be undertaken after the initial "pump priming" operation.
3. Questions about financial support for the proposed project were discussed. Initial federal support might change to some other kind of support after it was well established. Commercial producers of transparency materials and equipment might be asked for support, as with the Great Plains Instructional Library and the National Tape Recording Service. The long term support might come directly from the schools that use the service.
4. There was some concern that this project might help the "rich get richer and poor get poorer." A straight exchange system would help only those schools that already have much to offer. The proposed center should, with federal support, make materials available to all. Other federal programs will help individual schools to obtain the reproduction equipment and materials for making copies.
5. It was felt that the project director might not realize what

a large undertaking was needed to accomplish the stated ends. Staff and travel allowances would have to be extensive. A librarian should be employed to work out and apply a good system for cataloging, storing and retrieving materials.

6. Evaluation, with consequent rejection, correction or acceptance is an important area. Care must be taken to create good will and encourage local production of materials that will be acceptable to the center. Teachers would most likely be pleased to have materials accepted, but somewhat disturbed when transparencies are not accepted. Some materials not up to standard might, with suggestions from the center, be made into acceptable materials.

7. Considering the random samples shown, it was felt that most masters would need some modification before duplication and distribution. This could be done in most cases by a graphic artist. The project director pointed out that there were better masters in some selected centers around the country than the average obtained from the survey sample.

8. Content must be checked by at least two "competent" subject specialists. The "volunteer" status of these content people must be changed to "invited". Some thought that only nationally recognized experts with high fees should be used for content evaluation. Most seemed to think that there were enough content specialists available who would be glad to give time to this part of the project the same way that book reviews are done for professional journals. Some conferees expressed willingness to do this themselves. Both college

level and teachers at the elementary-secondary level should be involved in content evaluation. Many transparencies overlap and may be useful to more than one instructional level. Content evaluation should come before technical evaluation.

9. The originators of each accepted master should have a credit line on each reproducible sheet, but it should not appear on the screen when made into a transparency. This recognition of a contribution to the profession would be the reward for producing the original. All materials would apparently be put in the public domain as a contribution to American education.
10. The originator of each master should also supply some brief notes about use of the transparency, even though a teacher could use the transparency anyway he chose. Assembly instructions would be necessary in the case of overlays or moving parts.
11. The "translucent paper with black ink", an intermediary, was not endorsed as the only method of distribution. This means of distribution seemed restrictive to the group. It was pointed out in reply to their objection that the reasons for this specified intermediary were that any common transparency making equipment could easily use these as masters and that there would be less competition with commercial transparency producers. Good quality control over the reproduction process was emphasized.
12. There was general agreement that all business and government agencies who have made transparencies should be invited to

submit materials for possible inclusion in the center. Materials from the armed services and governmental agencies should also be evaluated and included if they meet the same technical and content standards. There will be substantial problems in locating and releasing some of this material.

13. Dissemination of information on the proposed center seemed very important. Mailings of 50,000 brochures, articles in journals, newsletters, exhibits at conferences and conventions, workshops, catalogs, etc. were mentioned. Experience gained by the National Project in Agricultural Communication might be particularly helpful.

14. The stimulation of teachers and audiovisual personnel to produce more transparencies was thought to be an important function. The project director repeated a remark often heard on his travels. "If I had known that anyone wanted them, I would have done a better job of making them."

    Graphics skills in local production centers are generally very limited. One important outcome of the center could be the stimulation for improved technical abilities to produce masters and finished transparencies. The center should work very closely with the graphics group of the Department of Audiovisual Instruction in this area.

15. The center should promote creative, innovative, and unusual uses for overhead projection. The center should also contain a research and demonstration branch. A newsletter similar to the ones circulated for eight millimeter films and programmed instruction was proposed. It was hoped that teachers who use

the center's services would not simply use the masters "as is" but would adapt them in creative ways to local needs and individual talents. Little research has been done on overhead projection.

16. To distribute transparencies to about 500 local, regional and state centers that met certain criteria was criticized for being too large a number and not meeting the needs of individual teachers not served by production centers. Perhaps a smaller number of centers could be selected to receive all masters automatically and institute a mailing system for individual masters on request. The supplementary education centers provided for in new federal legislation might be the best local repositories for masters.

17. Professional conferences should be included in the project to enable national leaders to advise the project staff and the Office of Education on changes and future directions. Such conferences should include many of the people already involved, members of the DAVI graphics group, and selected users of the center services.

The conference ended with a very optimistic atmosphere.

__Follow-up Conference__

A part of the phase 2 contract called for a follow-up conference of fifteen transparency specialists (essentially the same group used in phase 1) to:

a. Study the data summarized from the questionnaires, study the transparency examples collected, and study evaluative criteria developed by the institutional level and subject specialists.

b. React to the proposed procedures for accepting transparencies to be included in the national center.

c. Study procedures for operating the national center.

This conference was held on December 27-29, 1965, at the School of Education, University of Massachusetts, in Amherst, Massachusetts. The participants are listed and identified in Appendix H. Twelve participants were present at the original conference held a year earlier and three were new, but the same institutions were represented.

The project director brought the group up to date on all activities connected with the project since the first meeting, including visits, publications, presentations, samples seen, etc.

The questionnaire which resulted from the first conference was distributed and the survey specialist went over details of its construction, distribution and return. He then went through it item by item and reported all results.

The graduate research assistant reported on the random collection of representative transparency masters and showed all samples of transparencies he had made from the masters. A very large number of masters exists. Originators are willing to loan them for reproduction, and they vary widely in subject, instructional level and technical quality.

A report on the subject specialist conference of December 10-11 was made with special reference to the questions that needed to be answered.

The graduate research assistant for the project reported on his study of technical and content criteria for evaluation. Selection of materials to duplicate from among the many thousands of available materials will probably be a complex problem.

After all conference participants were familiar with progress to date, they tackled the two basic questions: Should a national center of transparencies be proposed to the U.S. Office of Education? What functions should it attempt to include?

There seemed no doubt that some form of center should be established with federal funds in order to improve education through the wide use of overhead projection. There was less agreement on exactly what functions should be included. They agreed that some limitations would be necessary in order to make it of manageable size.

The overall functions seemed to be "First, to provide teachers with a wealth of material for the overhead projector originated by others and, second, to promote the creation of large additional numbers of high-quality visual materials for use on overhead projectors."

Extensive discussion produced a reasonable degree of detail agreement on the following:

1. Operate from three to five years.
2. Collect transparency masters from selected originators according to a pattern of subject and grade levels.
3. Require a utilization statement with each master.
4. Establish a team to evaluate materials.
5. Perform editorial work necessary to prepare accepted materials, written and visual, for duplication.
6. Use a simple cataloging and identification system.
7. Prepare library card catalog - type cards for each transparency.
8. Make 300-600 easily reproduced copies of masters accepted. (Probably black ink on translucent paper.)

9. Distribute transparencies through established reproduction centers that meet certain criteria at no cost, and later introduce a cost basis. The project should stimulate the creation and expansion of production centers near every teacher.
10. Disseminate information about available materials, including materials from business and industry.
11. Invite originators, including business and industry, to submit materials for possible distribution.
12. Commission subject specialists to study armed service and governmental agency transparencies for possible distribution.
13. Establish an "idea exchange" to promote innovation and creativity among originators and users. This might turn into a newsletter.
14. Conduct regular evaluation conferences of the project. The conference participants used in this study might be included.
15. Experiment with various equipment, techniques, and materials for preparing transparencies, and publicize results.
16. Place transparencies in the public domain.
17. Use care to reproduce only materials that are not copyrighted.
18. Conduct research on materials, equipment and techniques used in overhead projection.

The conferees agreed to provide further help as needed and to assemble again as a general advisory group.

CHAPTER IV

SUMMARY AND RECOMMENDATIONS

Summary

It was the overall purpose of this project to determine the feasibility of establishing a national center to collect and evaluate locally produced overhead projection masters, and to duplicate and distribute reproducible copies to a large number of users, and potential users.

Data gathered during the feasibility study has tended to expand the scope of a national transparency center. Between project organization in 1962 and project completion in 1966, there has been a tremendous increase in interest in overhead projection and the availability of equipment and materials necessary to make it a large and important force toward improving education.

The term "Overhead Revolution" was invented to describe what seemed to be happening in education during this period. This was used as the title of an article that was published describing the project. (Appendix I)

Enthusiasm for some kind of a center to collect, evaluate, duplicate and distribute reproducible copies of available locally produced masters was evident in the data collected.

Approximately one hundred knowledgeable educators in the field of overhead transparencies in the United States were consulted during the project. Three two-day conferences were held at the University of Massachusetts to seek out and discuss all pertinent aspects of the proposed undertaking. Both subject matter specialists and audiovisual personnel were included in these invitational conferences.

Many people pointed out problems and difficulties that would have to be solved and overcome if a national center were going to be a reasonable and manageable project.

A few commercial producers of transparencies have objected to the idea of a center which they perceive as competition for private and tax-paying educational material producers. Other commercial producers said that this project would help to increase use of the overhead projector and transparencies and make them a regular part of every classroom. The latter group appears to be the majority.

Considering all of the evidence gathered during the project from reading, consultations, conferences and the survey questionnaire, it is now possible to answer the questions posed during the first stages of the investigation.

1. There are a vast number (91,799) of locally produced overhead projection masters in the schools and colleges of the United States that might be available and suitable for use in other schools and classrooms. Nineteen percent are at the elementary level, 53 percent secondary, and 28 percent at the college level.
2. At the elementary level, the four subject areas most supplied with locally produced transparencies are science, language arts, social studies and arithmetic.
3. At the secondary level, the largest numbers are in biology, history, geometry and English.
4. At the college level, the largest numbers are in education, physical science, languages and social science.
5. Thermal and diazo copying are the transparency producing pro-

cesses most used by the local makers of transparency masters. It is feasible to distribute translucent copies with black ink so that either of these two processes could be easily used. Photo copying and electrostatic equipment would also reproduce such masters so that all varieties of equipment reported could be used in reproducing transparencies.

6. Fifty-eight percent of the masters produced are about eight inches high and ten inches wide and are usually referred to as horizontal format. These can be projected with any overhead projector and on any screen. Thirty-six percent of the locally produced transparencies are the same size, but with the larger dimension vertical. They require a square projector aperture and square screen. Only four percent use the ten by ten size and format.
7. About three quarters (74%) of the local producers of transparencies are willing to permit the temporary loan of their masters to a non-profit national center for evaluation and possible duplication and distribution. This would total about 68,000 available masters. About 17 percent would not permit use of their masters or would require royalty. Rather than a problem of finding enough masters to initiate a national center, the problem instead will be one of selection from among a tremendous number of possibilities.
8. Editing of masters before duplication would be permitted by 75 percent of the producers and not permitted by only three percent. After viewing a sample of transparencies reported in the questionnaire, the conference participants indicated

that some editorial work would probably be necessary on many masters and that it should be done in a manner similar to that in publication. Any basic change in content would be cleared with or done by the originator.

9. Copyright questions appeared repeatedly. One problem centered around the "locally produced" masters that appeared to the experts to be copies from already copyrighted materials. A national center would need to take precautions to see that only non-copyright materials were actually used. The precautions suggested included a statement from the originator and careful checking by a subject matter specialist and the project staff.

   Another question centered around the problem of unauthorized duplication of masters for profit. At the beginning of the project it was thought that all materials might be copyrighted by the center and provided with a "not for sale or profit" reproduction legend. When the United Statess Office of Education stated that materials prepared under federal funds would be put automatically in the public domain, this question was apparently settled. Only those local producers who are willing to contribute their materials to the public domain would be included. This will not apparently be an obstacle to the success of the project.

10. A credit line on each copy of the master, but not apparent on the projected image, seemed to be the best method of recognizing the originator of the master. The similarity to authored professional articles was cited.

11. Brief utilization notes of some kind would be necessary with

many masters. The originator of the master in most cases would know more about the concept visualized on the transparency than the teacher who selects the transparency from a repository. Each master will be catalogued and coded according to the McMurray USOE project instrument and a punched card will be prepared.

12. Mounting instructions for the user of the service would be essential when various colors and overlays are used. At this time there is little standardization on this aspect of transparency mechanics.
13. Translucent paper with dense black ink is preferred for the mass distribution of copies of masters. There may be a better way in the future. This system would lessen direct competition with commercial transparency makers. It would also promote selectivity, adaptation and creativity at the local reproduction centers. A prepared transparency has little flexibility. A paper master can be adapted in many ways to a particular teacher's unique situation. It also means that distributed materials are very low in cost and only converted to more expensive form when actual use is planned.
14. Conference participants and consultants strongly urged a program that would stimulate teachers to create their own transparencies, and improve and expand local media centers so that needed materials and equipment would be readily available for every teacher. The availability of large numbers of masters would create a demand for facilities to use them.
15. The horizontal eight by ten format was preferred by 62 percent

of the respondents to the questionnaire. Twenty-eight percent preferred the vertical format. If the national center standardizes on eight by ten horizontal format, copies can be used on any common projector and screen. It is possible to change existing vertical masters to horizontal copies with little difficulty when plates are made for offset duplication. Some moves toward standardization of format are evident in the industry and a national transparency center should adopt standards when available. Any user who prefers vertical format can still use the horizontal materials without any difficulty.

16. Of 328 questionnaire respondents, 230 or 70 percent were in favor of establishing a national center to make locally prepared transparencies available to others. Only six were actually opposed to the proposed project.

Based on data gathered in this study there appears to be a mandate to proceed with plans for establishing a national center to collect, evaluate, duplicate and distribute locally produced transparency materials. A large quantity of valuable overhead transparency masters are available, and there is an expressed need.

Recommended Demonstration Project

Four years ago it might have been possible to collect materials from most of the local producers of transparencies and distribute copies to most of the people who wanted to make copies of them, and have a relatively small population. However, at the present time, the large number of individuals existing, who make and want transparencies, would make this an extensive task. It must not be inferred that there is no need for much additional promotion and use of this medium. The Godfrey study of 1964 indicated that although there had been tremendous growth, there was still only one overhead projector for each 37.6 teachers in the sample. The ratio has undoubtedly improved substantially in the past two years.

With substantial numbers of valuable materials and great need existing at the present time, it would seem appropriate to undertake a demonstration project for a three year period. This would make use of federal funds to demonstrate what could be done in 120 cooperating transparency repositories with materials collected, evaluated, duplicated, and distributed by a national center. A nationwide program to encourage use and exchange ideas on transparency utilization would be included.

Evaluation of the demonstration project would be conducted to determine whether further activities in this field are then needed or whether the individual, local, regional and state media centers might be able to continue without further federal support.

To summarize the major conclusions reached in this feasibility study, the following appear clear:

1. It is feasible to establish a means of collection, evaluation, duplication, and distribution of locally developed overhead transparencies.
2. Copyright and editing do not appear to be major problems as long as caution is exercised. The business community should be kept informed on the non-competitive nature of the project.

3. A short utilization statement needs to accompany most transparencies distributed by the center.
4. An organized program on a national level is needed to conduct workshops, and exchange ideas and practice concerning utilization of overhead transparencies.
5. Large numbers of government and sponsored overhead transparencies would be useful in regular classroom instruction.
6. Based on a majority of original transparencies sampled, some editing would be needed before duplication.

Considering all of the evidence gathered during this feasibility study, the University of Massachusetts proposes that a three year demonstration project be established to make locally produced overhead transparency materials and techniques available to a large number of educators. The proposal appears as Appendix M.

APPENDIX A1

NDEA TITLE VII B CONTRACT

No. OE-4-16-018 - June 29, 1964

University of Massachusetts, Contractor

I. Title:

A survey of Locally Produced Overhead Projection Transparencies for Teaching Public School and College Courses, Leading to Recommendations for Duplication and Exchange

II. Problem:

Many instructors have found the overhead projector to be an unusually good device for presenting material in their classrooms, but transparencies for this machine are few in number and often of low quality. Good original transparencies require considerable time and skill to produce, but they are very easily reproduced. Many instructors have a few good slides, but there has been only haphazard and informal exchange. It would appear that considerable improvement in the presentation of concepts, skills and information would result from the location, duplicating and distributing of good transparencies.

III. Purpose:

The purpose of this contract is to survey the availability of locally produced overhead transparency materials in the public schools, colleges and universities in the United States and to make recommendations concerning procedures for national distribution.

IV. Procedure:

It is estimated that the total project will require 18 months, to be conducted in two phases. Funding under this contract will cover Phase 1, funding for Phase 2 will be determined at the completion of Phase 1.

To accomplish the objectives of Phase 1 the Contractor will carry out the following procedures:

1. Hire the services of a competent specialist in survey techniques to work with the project director for the duration of Phase 1. Assuming the possibility of funding Phase 2, the survey specialist should be selected on the basis that he may provide continuity for the eighteen month period. This contract, however, provides only for the first ten months of his services.

2. The contractor will survey the literature and confer with representatives of DAVI, AHE, and other professional associations, and with the Bureau of Social Science Research, Washington, D.C., concerning their survey of audiovisual materials to get a rough estimate of the general availability of transparencies. The Contractor will also confer with producers and suppliers of overhead transparency materials.

3. After the initial survey is completed, the Contractor will assemble a conference of fifteen people knowledgeable about the availability of transparencies in university service and training programs, state departments of education, suppliers, and professional associations. It will be the function of this conference:

   a. to summarize views concerning the general need for exchange.

   b. to identify the populations to be surveyed.

4. After the completion of step #3, the Contractor and survey specialist will formulate a statement about the population to be surveyed, a sampling plan and a draft questionnaire. Upon completion of these items, the Contractor and survey specialist will consult with appropriate people in the Division of Statistics, Office of Education, regarding the adequacy of the sampling plan and questionnaire.

5. After completion of the questionnaire, it will be pretested with 9 people and revised as needed.

6. The pretested questionnaire and sampling plan will then be submitted for Bureau of Budget clearance.

Upon approval of the Bureau of Budget, the Contractor will negotiate with the Research Coordinator, Title VII-B, upon details and funding of Phase 2, the collection, analysis, and summary of data. Negotiations should be planned in ample time to precede the termination of Phase 1, of this contract.

V. Budget: $19,111

VI. Principal Investigator:

Raymond Wyman, Professor, School of Education, University of Massachusetts, Amherst

APPENDIX A2

THE AVAILABILITY AND CHARACTERISTICS OF LOCALLY PRODUCED OVERHEAD TRANSPARENCIES

A USOE TITLE VII B PROJECT

Plan of operation dated* April 14, 1965 for OE-5-16-017

CONTRACTOR: University of Massachusetts

PROJECT DIRECTOR: Raymond Wyman, School of Education

BACKGROUND:

The purpose of this contract is to complete phase 2 as outlined in initial contract OE-4-16-018. Specifically, the purpose of this phase is to survey a selected group of persons who are reported to have developed their own transparencies for use in public schools, colleges, and universities in the United States and to analyze responses in terms of making detailed recommendations for the establishment of a national transparency collection, duplication and distribution center for locally made transparencies. Population selection and survey procedures were prepared during phase 1 of this contract.

It is estimated that phase 2 will require 9 months.

PROCEDURES:

To accomplish the objectives of phase 2, the Contractor will carry out the following procedures:

1. Continue the services of the project director, survey specialist, secretary and consultants.

2. Duplicate copies of the questionnaire prepared in phase 1 and send it to the population determined in phase 1. Careful follow-up will be made to encourage complete returns.

3. Compile and summarize data from the returned questionnaires.

4. Contact a sample by instructional level and subject area from among those responding to the questionnaire. Each selected individual will be requested to submit representative examples of transparency masters to determine characteristics, quality, and conditions for duplication.

5. Make a limited survey of transparency masters in government, armed services, industry and non-public schools to determine if selected transparencies from these sources would be available and useful to a national transparency center. Samples of available materials would be requested.

* Revision of a plan of operation dated March 19, 1965.

6. Conduct a conference of 15 grade level and subject specialists from among the professional associations contacted in phase 1 together with two consultants to develop evaluative criteria for accepting transparencies for the proposed national repository. Samples obtained from steps 4 and 5 above will be examined. The list of participants will be submitted to the Media Research & Dissemination Branch prior to the meeting.

7. The director with his consultants and the Director of the National Tape Library (acting as a consultant) will draft a proposal for determining the procedures for accepting materials and for the operation of the national transparency center.

8. Conduct a follow-up conference of 15 transparency specialists (essentially the same group used in phase 1) to:

   a. study the data summarized from the questionnaire, the transparency examples collected and the evaluative criteria developed by the grade level and subject specialists.

   b. react to the proposed procedures for accepting transparencies to be included in the national center.

   c. react to the proposed procedures for operating the national center.

9. The director and two consultants will confer as necessary to evaluate each aspect of the program and to make recommendations for a phase 3 proposal.

10. Prepare a comprehensive plan of operation for a national transparency collection, duplication and distribution center together with criteria to be applied to materials to be included. This comprehensive plan will be presented to the Office of Education for consideration as a demonstration project in new media or for use in other related office programs.

APPENDIX B

PLACES AND PERSONS VISITED BY PROJECT DIRECTOR

1.	August 13, 1964	L.K. Hamilton, Holyoke, Massachusetts
2.	August 24	Martin Myers, East Orange, New Jersey
3.	August 26	Edgar Dale, Professor, Ohio State University (my office)
4.	September 17	Robert Snider, DAVI, Washington, D.C.
5.	September 17	Herman Preseren, Wake Forest College, North Carolina
6.	September 18	John Pritchett, Appalachian State Teachers College, Boone, North Carolina
7.	September 24	Richard Lewis and Jerrold Kemp, San Jose State College, San Jose, California
8.	October 6	Bennett Schultz and Henry Marsh, Holyoke, Mass.
9.	October 8	Arthur Lalime and area AV directors, Norwalk, Connecticut
10.	October 9	James Gillespie, New York City
11.	October 9	Eric Burtis, Hoboken, New Jersey
12.	October 9	Edwin Foster, Educational Media Council, N.Y.C.
13.	October 16	Visual Communication Commercial Representatives, St. Paul, Minnesota
14.	October 16	Dudley Parsons and Neville Pearson, Minneapolis, Minnesota
15.	October 17	Henry Ruark and area AV men, Salem and Milwaukie, Oregon
16.	October 23	Mary Boyvey and State Education Agency, Austin, Texas
17.	October 25	DAVI Executive Committee, Austin, Texas
18.	November 6	Charles Schuller & Staff, Michigan State Univ.
19.	November 20	Robert Diamond & Staff, Miami University, Coral Gables, Fla. (also Leonard Singer & Staff at Florida Atlantic University)

20.	December 2, 1964	Overhead Workshop at Boston University
21.	December 29	Jerrold Kemp, San Jose, California
22.	February 24, 1965	Transparency Contest, Phoenix, Arizona
23.	February 27	John Vergis & Vernon Gerlach, A.S.U., Tempe, Arizona
24.	March 12	Robert deKieffer and Staff, Boulder, Colorado
25.	April 13	Ohio State University Staff, Columbus, Ohio
26.	April 24-30	DAVI Convention, Milwaukee, Wisconsin
27.	June 7	Navy District Headquarters, Boston, Mass.
28.	June 11	National Association for Industry-Education Cooperation, New York City
29.	June 17	Fort Devens Army Base, Ayer, Massachusetts
30.	July 19	NAVA and NAIEC meetings and conference with Philip Lewis, Chicago, Illinois
31.	August 12	John Dome and Staff at Miami University, Ohio
32.	August 13	AV and ETV Staff at University of Nebraska, Lincoln, Nebraska
33.	September 24	NASA and Missile School, Huntsville, Alabama
34.	October 8-9	University of Hawaii, Kamehameha and Punahou Schools
35.	October 20	Industrial AV Association, Boston, Mass.
36.	October 29	U.S. Office of Education, Captioned Films for Deaf
37.	November 4	SMPTE, Montreal, Canada
38.	March 15-19, 1966	Jerrold Kemp and James Finn, Los Angeles, Calif., Wilfred Veenendaal, Lansing, Michigan

APPENDIX C

PARTICIPANTS IN FIRST CONFERENCE

January, 1965

Dr. Robert M. Diamond
Director of Instructional Resources
University of Miami
Coral Gables, Florida 33124

James E. Gillespie
A/V Product Manager
General Aniline & Film Corp.
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New York, New York 10020

Dr. Eleanor Godfrey
Bureau of Social Science
Research, Inc.
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Washington, D.C. 20036

Mr. Donald Gundel, Director
Graphic Services
University of Colorado
Boulder, Colorado 80304

Mr. Larry Hamilton, President
Tecnifax Corporation
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Holyoke, Massachusetts

Dr. Jerrold Kemp
Audiovisual Center
San Jose State College
San Jose, California

Mr. William King
Audiovisual Center
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Mr. W.T. Kinniell, Director
Division of Instructional Media
Texas Education Agency
Austin, Texas

Mr. Arthur Lalime
Audiovisual Instruction
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Norwalk, Connecticut

Mr. Don Lubitz, Graphics Director
Communications Center
University of Hawaii
Honolulu, Hawaii 96822

Mr. John Pritchett, Jr.
Audiovisual Center
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Boone, North Carolina

Mr. Henry C. Ruark, Jr.
Instructional Materials
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Salem, Oregon 97310

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Lincoln, Nebraska 68508

Mr. Wilfred Veenendaal
Audiovisual Center
Michigan State University
East Lansing, Michigan

APPENDIX D

INTERVIEW QUESTIONS USED BY PROJECT DIRECTOR

Raymond Wyman

1. Is a national transparency repository a good idea?

2. Are there enough good transparencies to warrant this?

3. What has been your experience with duplication and exchange files in your own area?

4. How should we best locate the people who would have valuable materials to contribute?

   a. Attendees at workshops?
   b. Purchasers of transparency materials?
   c. Purchasers of simple diazo duplication?
   d. Purchasers of Ozamatics and other high speed duplication?
   e. Purchasers of overheads?
   f. AV people who have employed graphic artists?
   g. Program participants at Workshop - Seminars?
   h. Others?

5. Should we plan on correcting and improving slide masters or leave them as they are?

6. What is best form for non-profit selling of materials to potential users?

   a. Complete bound or mounted transparencies.
   b. Transparency sheets, not mounted.
   c. Diazo intermediates such as 42T.
   d. Printed sheets such as inserts in Visucom.

7. Would a catalog with 35 mm reproductions of transparencies give potential users enough information for selection?

8. Would some form of printed notes or a guide be necessary?

9. Would copyright aid or hinder the operation?

10. Have you found that most people with good transparencies are willing to allow copies, providing credit is included on the slide?

APPENDIX E

COMMENTS MADE ON QUESTIONNAIRE BY LOCAL PRODUCERS OF OVERHEAD TRANSPARENCIES

The following are a sample of comments made in response to the question: "Your comments on the need and procedures for such a repository would be welcomed:"

E = Elementary S = Secondary C = College

1. The need is obvious. The capacity to catalog satisfactorily and/or to "preview" masters might prove a huge obstacle. E-S-C
2. This repository is definitely needed. This will undoubtedly enable many school districts to begin a program of transparency acquisition. E-S
3. Badly needed - please keep me informed - will question the districts I work with. E-S
4. I believe in what you are doing and will do all I can to help. S-C
5. The need is great. It should stimulate more local production of originals. E-S
6. It seems like a good idea. Then again the catalog might not be available and material on deposit with you could be overlooked. Also some teachers feel the material is personal--and while they do not object to some one duplicating or approximating the original, they are unwilling to give duplicates-- E-S-C
7. I question the value of such a repository. E-S
8. I feel that it would provide needed impetus to overhead projector utilization. Many smaller, understaffed schools would benefit greatly from having access to such a repository. E-S
9. I feel it is a much needed thing. I am willing to put my support behind such. It would be a great contribution. Would like to hear more about the development. Please advise as progress is made. S-C
10. Many of those we have done are for local situations or areas of difficulty and I would question national demand. Also with the growing number of masters on the market at reasonable cost what would be the interest. A continuation of something like the Visu-com masters at a slight publication cost might be well received. This survey idea is excellent to allow for possible interest. E-S
11. We have no systematic collection of masters but would certainly wel-

come such a repository. What would be the conditions for such a service? Several of the answers in the preceding section would depend upon those conditions of use. E-S-C

12. There is a definite need. A nationally acceptable system of cataloging should be devised. Users of this service would need protection against copyright infringement suits in the event that other users might inadvertently submit originals which had been previously copyrighted. E-S-C

13. Many of these materials are very closely guarded by the user as unique to his talents and presentation. Our previous experience with creative work of faculty would tend towards discouraging such a project without protection and reward for originator of the materials. Also some portion of the visual may already be the product of others that requires restriction to local use. E-S-C

14. The students expect a more professional job of visual presentation each year. The teacher designed transparencies will probably have to be edited, redesigned professionally with top grade lettering and be the best use of pastels, lettering, "strip tease", etc. S-C

15. We in the Colorado Audio-Visual Association have discussed the formation of a state agency. A national agency would give us that much more to draw upon. E-S-C

16. I think subscription should be sold whereby school districts would receive a steady flow of originals for their files. The subscription could be broken down into subject areas and grade levels. E-S

17. I feel that such a repository would be of tremendous value for the school systems of the U.S.A. I would be willing to serve on any committee you set up. E-S

18. This is an excellent idea, but the originals would have to be carefully classified to avoid confusion. Also, if I may be of any help, please feel free to contact me. It seems adviseable to hire a graphic artist to remake originals, as some of mine are not suitable for circulation. E-S

19. Editing would seem necessary on most of our locally produced materials. Many drawings and charts teachers used camefrom texts and magazines and might be sticky as to copyrighting. We have mostly produced materials for a specific need i.e. meetings, etc. and being of the chart-graph variety they would be of little use to anyone. E-S

20. Not reflected in this report are the several hundred transparency masters produced in my production classes each year. Many of these would be suitable for national distribution. E-C

21. This soundslike a great idea--hope you can "pull it off." If I can help in any way let me know. These answers are only for the School of Business not the Instructional Technology Department. E-S-C

22. There is definite need for such a library, but it seems that the task of establishing one would be astounding. In order to be effective I think you would have to produce an illustrated catalog of each transparency. E-S

23. From my own experience, other peoples' original material seldom fits my needs. That which can be mass produced is best handled by a commercial firm which can generally offer better service than an educational concern. E-S

24. I believe such a center to be a necessity. We have not yet begun to use this new means for visual communication to its fullest extent--I am sure centers such as this one would profit greatly from a source of masters such as you envision. E-S

25. A national repository seems like a very unwieldy unit. If developed transparencies can be produced at a very reasonable cost and made readily available, they will no doubt be very widely used. E-S

26. I'm sure such a repository would be helpful if the problems of communication as to what is available can be solved. E-S

27. A national cataloging & production center ok but perhaps regional repositories for easier access & quicker service. E-S

28. I think your biggest problem will be copyright clearance. Many things are copied and called "my own"--by teachers and AV personnel. Few have time for original development of an idea...he lacks time and talent. Few teachers can describe exactly what they want in a transparency! We would develop their ideas, but they are not thinking of any. Masters from a repository would be a real help! ! I think state dept. should be part of the plan. Have you seen the study of the Texas Educational Agency on use of STATE DEPT. to produce transparencies? It was a cooperative study by HEW. E-S

29. Would be extremely useful as we have the projectors, but many teachers don't have time to make transparencies. Copies on spirit masters to accompany transparencies would also facilitate class use. Maps & charts of government would be helpful. Overlays to vary use of transparencies to fit class situations would also help. Hope cost of obtaining transparencies would be minimal. Good luck! S

30. A non-profit national repository sounds like a very good idea from the teacher's point of view (but not mine, I'm afraid!) S

31. My experience with other teachers is that 99% of the teachers have not the time, ability, or equipment to produce these vitally needed educational materials. The quality of classroom teaching can be so markedly improved that I feel the government might invest valuable money in producing materials of this type for public distribution to educators. The presently available commercial transparencies--with the one exception of______________and________________in biology, are useless in my opinion. They are to diagramatic and too chock full of material to be suitable for lecture. Often they

are full of inaccuracies. The result of my efforts if far from perfect, but at least they are tailor-made to my own needs. I fully recognize the limitations of commercial production and understand why they cannot be scientifically designed because this would be economically prohibitive in many cases. Painstaking care that could be made possible through non-profit cooperation of knowledgeable people can make a reality of a dream for many teachers. The modern teacher needs detailed accuracy in the science class and less commercial trimming. The teacher is not producing TV entertainment, but a factual down-to-earth lecture. Meanwhile, let's not expect the student to soak up a whole book chapter in one transparency with a dozen overlays. The student will gain much more from a half dozen different transparencies each with a couple of overlays. Moreover, his interest will be maintained with a variety of color combinations, backgrounds, and production techniques. Discipline is no problem when the "show" has variety and maintains a high level of interest.

It may interest you to know about a sidelight to my transparencies. At present I am assisting the Head of the Dept. in production of a video tape for a 3-credit Human Biology course for non-science majors. ______________ was eagerly looking forward to using my supply of transparencies, but we soon discovered that the TV camera was not so successful at "taking pictures of pictures." Consequently, it was useless to throw all of this on the screen. Instead, we now do two things--either we use the master taped to a cardboard background--or we use the transparency taped to the cardboard & photograph it directly. Since it is my job as girl Friday to "divine" __________________ every thought in advance of the taping of the 55 minute lectures, I have to work constantly at having enough things to photograph. Where my own supply of transparencies is deficient, I could certainly use a national repository at this very minute. It would save incalculable hours! ..... S

APPENDIX F

CONTENT EVALUATION OF OVERHEAD TRANSPARENCY

Evaluator...Date...........

Transparency.. # ....

This transparency has been submitted for possible use in the national transparency project. Please check the appropriate spaces. Include any comments which would aid in the evaluation of this transparency.

1. Will content be visible and readable under usual viewing conditions?

    ____Yes   ____Questionable   ____No

2. In what subject areas should this transparency be used?

    Major subject______________________________

    Additional subject(s)________________________

3. At what instructional level(s) would this transparency be appropriate? (You may check more than one)

    ____Primary ____Elementary ____Secondary ____College ____Adult

4. Is the transparency's content accurate?

    ____Yes   ____Questionable   ____No

5. To the best of your knowledge, is the material free of copyright restriction?

    ____Yes   ____Questionable   ____No

6. In your opinion, will the transparency contribute significantly to student learning?

    ____Yes   ____Questionable   ____No

7. What is your recommendation, considering the transparency as a whole?

    ____Accept   ____Accept with minor changes   ____Reject

    If the transparency is to be accepted with minor changes, indicate necessary changes. (Sketch on reverse, if necessary.)

    ____

    ____

8. Comments:______________________________________

    ____

    ____

APPENDIX G

PARTICIPANTS IN SUBJECT MATTER CONFERENCE

December 10-11, 1965

Charles L. Balcer (Speech)
President
Augustana College
Sioux Falls, South Dakota 57102

Richard L. Barrett (Chemistry)
College of Arts and Science
New Mexico State University
University Park, New Mexico 88070

Robert E. Boyer (Geology)
Associate Professor of Geology
University of Texas
Austin, Texas

Edward Cleino (Music)
Chairman
Department of Fine and Practical Arts
University of Alabama
University, Alabama

George Cunningham (Math)
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Miss Leila Ann Doyle (Library)
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Albert F. Eiss (Science)
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Lincoln, Nebraska 68508

Miss Ruth Wheeler (Hone Economics)
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APPENDIX H

PARTICIPANTS IN FOLLOW-UP CONFERENCE

December 28-29, 1965

Mrs. Mary Boyvey
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Texas Education Agency
Austin, Texas 78711

Robert M. Diamond
Director of Instructional Resources
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Coral Gables 46, Florida

James E. Gillespie
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APPENDIX I

THE OVERHEAD REVOLUTION

Ronald Fredrickson and Raymond Wyman
School of Education, University of Massachusetts

Education took a giant step forward about 1825 when the chalkboard rather suddenly and dramatically changed from a portable, optional and supplementary educational device to a fixed, required and integrated part of the classroom teaching program.

No audiovisual device has yet come close to such overwhelming acceptance. Thirty years of research, experimentation and promotion have failed to make tapes, movies, filmstrips or slides generally incorporated into the classroom procedure. They remain portable, optional and supplementary.

The chalkboard has at last a competitor. The overhead projector and its tilted or angled screen show strong tendencies toward becoming standard classroom equipment for use at any moment by any student or teacher with a visual message to communicate to the group. Recent studies by the Bureau of Social Science Research[1] and School Management[3] magazine have pointed out the rapid growth in ownership of this device, and more importantly, the projected purchases of it during the next few years.

The 1961 study conducted by the Bureau of Social Science Research showed that the sampled schools needed 211.5% more overhead projectors than they presently had. This was significantly higher than for any other piece of equipment.*

* A most recent follow-up study on actual purchases conducted by Eleanor P. Godfrey of the Bureau of Social Science Research is indeed confirming this dramatic increase in the purchase of the overhead projector.

School Management magazine reported in its study that 3.08 million dollars was spent on overhead projectors by 52.07% of the nation's school districts in 1962-63. One year later in 1963-64, the School Management survey reported a total of 5.07 million dollars being spent for overhead projectors by 62% of the nation's school districts. This increase in expenditure of 1.09 million dollars was greater than for any other audiovisual equipment included in the survey.

The obvious extension of this trend is to purchase one overhead installation for each existing classroom and to specify such an installation for each new classroom. Many audiovisual specialists have already accomplished this goal.

More than forty companies now produce finished transparencies to be purchased by schools to use on the overhead. These started as low volume, high cost items. As the demand increases, they are being printed by low cost, high speed methods with resultant lower retail costs. Schools may soon have individual libraries of transparencies for immediate uses.

Another development that has promoted overhead use is the availability of many paper masters from which teachers can make their own transparencies. Translucent paper with dense black ink on one side permits local duplication onto plastic with any of the transparency-making machines.

Schools are also installing their own production equipment so that teachers are encouraged to create their own transparencies that can be used with effectiveness and pride. It is no secret, however, that good local production is time consuming and requires personnel, facilities, tools, and skill. This was pointed out in EDUCATION SCREEN AND AUDIOVISUAL GUIDE by Henry Ruark in an article entitled, "It's IMC for 1963."[2]

Many transparencies created originally by teachers for use only in their own classrooms are of such quality that they should be available to large numbers of teachers. Samples can be seen in many schools throughout the nation to support this claim.

The United States Office of Education (NDEA VII B) has contracted with the University of Massachusetts to make a national survey to determine what teachers have actually produced for the overhead projector that might be available and useful to a large number of teachers.

Approximately 600 teachers and audiovisual personnel from schools and colleges in the 50 states have been identified as likely owners of valuable locally produced transparencies. They were found through periodicals, professional associations, state audiovisual supervisors, audiovisual leaders, graphics specialists and the commercial suppliers of the materials used.

Each of the 600 will be asked by individual questionnaire to indicate what he actually has produced (not reproduced) that might be useful to others. Each will also be asked what methods he used, which size and format he prefers, and other technical details. A random sample of locally produced transparencies will be collected to study the quality of reported transparencies.

The 600 selected producers of teaching transparencies will be asked questions about the desirability and possibility of setting up a national transparency collection, duplication and distribution center. Such centers are already operating for audio tapes and television tapes. There is an opportunity to improve education at all levels if the local producers of quality transparencies share their materials with others through a non-profit center.

There is some concern that the availability of many transparencies or masters for making them might stifle creativity and continued local production. However, it appears just as plausible to think that teachers will feel encouraged to start producing transparencies of their own as well as using materials from others.

There are many problems that need to be solved. Technical and content standards for acceptance of material for duplication must be worked out in detail. There is need to avoid reproduction of mediocrity. To edit or not to edit to "improve" materials is another question. The question of copyright has arisen. The possible competition with commercial transparency producers has caused objection from some and congratualations from others. One company spokesman remarked that, "Anything that promotes overheads is good for us." Before a center is established, there are many other undetermined problems to be studied.

To resolve some of those problems two conferences, one for subject matter specialists and one for transparency experts, are scheduled for December, 1965, at the University of Massachusetts in Amherst to consider all of the materials and ideas obtained from the survey and to make recommendations concerning the establishment of a national transparency center.

The overhead projector can do most to aid classroom communication when it is supplied with a constant stream of good transparencies. Such a supply appears to be within sight.

BIBLIOGRAPHY

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2. Ruark, Henry C. Jr., "It's IMC for 1963," EDUCATION SCREEN AND AUDIOVISUAL GUIDE, December, 1963, pp. 674-680

3. "The Cost of Audio-Visual Instruction 1962-63/1963-64," SCHOOL MANAGEMENT, June 1964, pp. 82-93.

SURVEY OF THE AVAILABILITY OF LOCALLY PRODUCED OVERHEAD TRANSPARENCIES

SPONSORED BY:

The Department of Health, Education, and Welfare
Office of Education
Washington, D.C. 20202

CONDUCTED BY:

The School of Education
University of Massachusetts
Amherst, Massachusetts 01003

SURVEY QUESTIONNAIRE

The Commonwealth of Massachusetts
University of Massachusetts
Amherst

Audio-Visual Center

Dear Participant:

We are asking you to take part in an important study. The University of Massachusetts, under the sponsorship of the U.S. Office of Education, is studying the feasibility of establishing a national center for locally produced original overhead transparencies.

Many teachers and college instructors are finding the overhead projector to be an unusually good device for presenting material in their classrooms. Transparencies for this projector are few in number. Good locally-prepared original transparencies require considerable time and skill to produce, but they are very easily reproduced for others to use. It therefore seems desirable to locate good quality locally-prepared transparencies and plan for their duplication and distribution to all interested educators.

We have surveyed the professional journals, state audiovisual directors, professional organizations, and leaders in audiovisual education to compile a list of approximately six-hundred people in the United States who are most interested in overhead transparencies, and who would likely have transparencies that would prove valuable to other instructors. Your name appears on our list from one or more of these sources.

A few minutes of your time to give us the information necessary for determining what is available, conditions for reproduction, and possible use would be most helpful. We have selected a small group in the United States that can provide the needed information, so every response is very important. If you have comments or questions, please attach them. Thank you for your cooperation.

Sincerely yours,

Raymond Wyman

Dr. Raymond Wyman, Prof.
School of Ed.-AV Center

SURVEY OF THE AVAILABILITY OF LOCALLY PRODUCED OVERHEAD TRANSPARENCIES

Sponsored by U.S. Office of Education

Name ....

Title ....

Institution ....

Street Address ....

City .... State .... Zip Code ....

Telephone No. .... Area Code ....

The purpose of this survey is to obtain information concerning the availability and characteristics of locally produced original overhead transparencies for a national non-profit repository and duplication center.

Please complete and return this questionnaire by October 22, 1965.

I. Do you or members of your school staff make original transparencies for the overhead projector by some method involving a master that would permit additional copies to be easily produced?
Yes .... No .... If answer is no, proceed to item VIII.

II. In what areas has your department or school produced original transparencies? The instructional levels have been divided into three sections for your convenience. Please feel free to add subject areas. Give an approximate estimate of the number of locally developed overhead transparencies that you have in the blank beside each subject area.

A. ELEMENTARY

Indicate approximate number of transparencies in each blank.

1. ____ Arithmetic
2. ____ Art
3. ____ Foreign Languages
4. ____ Language Arts
5. ____ Music
6. ____ Physical Education
7. ____ Science
8. ____ Social Studies
9. ____ Special Education
10. ____ (Others) ____________________
11. ____ ____________________
12. ____ ____________________

B. SECONDARY

Indicate approximate number of transparencies in each blank.

1. ____ Agriculture
2. ____ Algebra
3. ____ Art
4. ____ Biology
5. ____ Bookkeeping
6. ____ Calculus
7. ____ Chemistry
8. ____ Civics
9. ____ Driver and Safety Education
10. ____ Economics
11. ____ English
12. ____ Foreign Languages
13. ____ General Mathematics
14. ____ General Science
15. ____ Geography
16. ____ Geometry
17. ____ Guidance
18. ____ History
19. ____ Home Economics
20. ____ Industrial Arts
21. ____ Journalism
22. ____ Marketing
23. ____ Mechanical Drawing
24. ____ Music
25. ____ Office Machines
26. ____ Physics
27. ____ Physical Ed., Health
28. ____ Earth and Space Science
29. ____ Problems of Democracy
30. ____ Psychology
31. ____ Reading
32. ____ Shorthand
33. ____ Special Education
34. ____ Speech, Theatre
35. ____ Sociology
36. ____ Trigonometry
37. ____ Typing
38. ____ (Others) ____________________
39. ____ ____________________
40. ____ ____________________

C. HIGHER EDUCATION

Name specific area and indicate approximate number of transparencies in each blank.

1. Agriculture

___ ____________________

___ ____________________

___ ____________________

2. Arts

___ ____________________

___ ____________________

___ ____________________

3. Business Administration

___ ____________________

___ ____________________

___ ____________________

4. Education

___ ____________________

___ ____________________

___ ____________________

___ ____________________

___ ____________________

___ ____________________

5. Engineering

___ ____________________

___ ____________________

___ ____________________

___ ____________________

___ ____________________

___ ____________________

6. Humanities

___ ____________________

___ ____________________

___ ____________________

7. Languages

___ ____________________

___ ____________________

___ ____________________

8. Medical

___ ____________________

___ ____________________

___ ____________________

9. Natural Sciences

___ ____________________

___ ____________________

___ ____________________

10. Physical Sciences

___ ____________________

___ ____________________

___ ____________________

11. Social and Behavioral Sciences

___ ____________________

___ ____________________

___ ____________________

12. ___ **Others** ____________

___ ____________________

___ ____________________

13. ___ ____________________

___ ____________________

___ ____________________

14. ___ ____________________

___ ____________________

___ ____________________

III. What equipment do you use in the production of overhead transparencies? Check (✓) the degree of utilization.

Equipment	Use Regularly	Have Access but Limited Use	Not Available	Comments
Diazo (ammonia process)				
Electrostatic				
Heat Process (thermo)				
Photo Copy (diffusion transfer)				
Photographic				

IV. What percent of your locally developed transparencies are in the following approximate size and format? Use approximate percentages.

___ 8″ High x 10″ Wide **___ 10″ x 10″**

___ 10″ High x 8″ Wide **___ 7″ x 7″**

___ ______________________

V. If a non-profit national repository for duplication and distribution of overhead transparencies is established, would you be willing to loan (temporarily) your masters and permit duplication and distribution? ___

Would there be any special limitations? ______________________

____

____

____

____

VI. Before duplication, would editing of your materials be permitted if final approval was obtained from the originator?

Yes ___ No ___

VII. Would you permit a non-profit national repository to copyright your materials in order to prevent unauthorized reproduction? Yes ____ No ____

If no, explain ____

____

____

____

____

____

VIII. Assuming a low cost reproduction service is provided, in what form would you prefer to obtain materials from the repository?

____ Translucent paper copies for local transparency production

____ Unmounted transparencies (higher materials cost)

IX. What is your preference for approximate size and format?

____ 8″ High x 10″ Wide	____ 7″ x 7″
____ 10″ High x 8″ Wide	____ ______________________

X. Your comments on the need and procedures for such a repository would be welcomed: ____

____

____

____

____

____

____

MAILING INSTRUCTIONS

1. Close booklet so that the cover page and gummed edge of back flap are visible.
2. Moisten gummed edge of flap, and fold, sealing edge to cover.
3. Mailing address will now be visible, and the questionnaire may be mailed flat.

FROM

____
____
____

DR. RAYMOND WYMAN
SCHOOL OF EDUCATION
UNIVERSITY OF MASSACHUSETTS
AMHERST, MASSACHUSETTS 01003

APPENDIX K

PROFESSIONAL ORGANIZATIONS CONTACTED

1. American Association for the Advancement of Science
2. American Association for Health, Physical Education and Recreation
3. American Association for Physics Teachers
4. American Association of School Librarians
5. American Driver & Traffic Safety Education Association
6. Association for higher education
7. American Industrial Arts Association
8. Association of Social Science Teachers
9. Association for Supervision & Curriculum Development
10. Council for Exceptional Children
11. Department of Audiovisual Instruction
12. Department of Vocational Education
13. Educational Media Council
14. Journalism Education Association
15. National Art Education Association
16. National Association for Business Teacher Education
17. National Association for Public School Adult Education
18. National Association of Secondary-School Principals
19. National Audiovisual Association
20. National Business Education Association
21. National Commission on Safety Education
22. National Council of Teachers of English
23. National Council of Teachers of Mathematics
24. National Education Association Department of Foreign Languages
25. National Education Association Department of Home Economics
26. National Federation of Modern Language Teacher Association
27. National Science Teachers Association
28. Speech Association of America
29. Association for Social Science Teachers

APPENDIX L

PERSONS FROM WHOM SAMPLES OF TRANSPARENCIES WERE OBTAINED TO STUDY QUALITY OF REPORTED LOCALLY PRODUCED TRANSPARENCIES

1. Philip M. Berg, Principal, Malabon Elementary School, 1380 Taney St., Eugene, Oregon 97402.

2. John Borza, Bureau of Visual Education, Cleveland Public Schools, 2026 Murray Hill Road, Cleveland 6, Ohio.

3. David L. Burroff, AV Director and Art Director, East Allen County Public Schools, 2700 East Maple Grove, Fort Wayne, Indiana 46806.

4. David Chickering, AV Director and Assistant Principal, School District of Riverview Gardens, 1370 Northumber Drive, St. Louis, Missouri. 63137

5. Donald G. Chiszar, Audiovisual Department, 410 Lincoln Way East, Mishawaka, Indiana 46544.

6. Frederick A. Critchfield, Foothill College, 12345 El Monte Road, Los Altos Hills, California.

7. Buford A. Ellis, AV Materials Supervisor, Center School District, Kansas City, Missouri.

8. Winston Eshleman, Director, Instructional Materials Center, 125 East Prince Road, Tucson, Arizona 85705.

9. Mrs. Bertha Fitzsimmons, AV Director, Ohio County Schools, Resource Center, 2203 National Road, Wheeling, West Virginia.

10. Edward Foster, AV Coordinator for Junior High School, Woodmere-Hewlett Schools, 1170 Peninsula Blvd., Hewlett, New York 11557.

11. Brother Richard Francis, F.S.C., Audio Visual Director, South Hills Catholic Schools, 1000 McNeilly Road, Pittsburgh, Pennsylvania 15226.

12. Richard Gilkey, Director, Instructional Media Center, Jackson County Intermediate Education District, Court House Annex, Medford, Oregon 97501.

13. Glen Hastings, 1000 Florida Avenue, Chickasha, Oklahoma 73018.

14. Wilford A. Jarboe, Audio Visual Supervisor, Evansville-Vanderburgh School Corporation, 216 S.E. 9th Street, Evansville, Indiana 47713.

15. I.F. Lombardo, Director, Audio-Visual Center, Heminway Park School, 37 Heminway Park Road, Watertown, Connecticut.

16. Edwin H. Meador, Production Supervisor, Audio-Visual Service, Miami University, 310 Gaskill Hall, Oxford, Ohio 45056.

17. Evan J. Memmott, Director, Education Media, Weber State College, 3750 Harrison, Ogden, Utah.

18. Robert L. Paulson, Audiovisual Director, Malcolm Price Lab. School, State College of Iowa, Cedar Falls, Iowa.

19. Joseph Place, Director, AV Services, Eastern New Mexico University, Portales, New Mexico.

20. Stanley Rabin, Director of Audiovisual Education, Central School District No. 4, East Patchogue, New York.

21. V.B. Rasmusen, Director, Audiovisual Center, Wisconsin State University, LaCrosse, Wisconsin 54601.

22. Philip B. Stiness, Math Teacher, Richard Montgomery High School, Rockville, Maryland.

23. Robert R. Suchy, Director, Department of Instructional Resources, 5225 West Vliet Street, Milwaukee Public Schools, Milwaukee, Wisconsin, 53208.

24. Mrs. Eleanor Godfrey, Bureau of Social Science Research, Inc., 1200 Seventeenth Street, N.W., Washington, D.C. 20036.

APPENDIX M

A DEMONSTRATION PROJECT TO MAKE LOCALLY PRODUCED OVERHEAD TRANSPARENCY MATERIALS AND TECHNIQUES AVAILABLE TO EDUCATORS

CONTRACTOR: University of Massachusetts

PROJECT DIRECTOR: Raymond Wyman, School of Education

BACKGROUND:

The project proposed is an extension of work completed under phase one (OE-4-16-018) and phase two (OE-5-16-017) of an undertaking aimed at making overhead transparency materials and techniques available to teachers. Phase one focused upon the population to be surveyed and professional opinions on availability, need and feasibility of a repository for overhead transparencies. Phase two provided information on the availability of material, the conditions for duplication, and the producer and user opinions concerning need and details of operation. The proposed phase three is designed to establish a center and repositories which will contribute significantly to the dissemination and utilization of locally produced overhead transparency materials and techniques.

There is considerable agreement among media producers, school users, and members of relevant professional societies that a center pertaining to overhead transparency materials and techniques should be established. Such a center would be roughly designed along the lines of now existing television lesson and audio tape duplication centers. Responsibilities of the center would include organization, collection, evaluation, duplication, distribution, and promotion.

The School of Education of the University of Massachusetts has the staff, the facilities, and the know-how to administer such an operation and requests approval by the United States Office of Education for a demonstration project.

OBJECTIVES:

The general objective of this phase of the undertaking is to improve education by making locally developed overhead projection materials and ideas much more available to classroom teachers than is now the case. Specifically, the following objectives will be pursued to make such availability possible:

1. To collect, evaluate and duplicate a selected number of overhead projection master materials that have been obtained through twenty outstanding school media production centers.
2. To establish a center at the University of Massachusetts for the purpose of distributing selected materials on a national basis and for the purpose of promoting the creation, improvement, exchange, and utilization of overhead projection materials and techniques.
3. To develop a network of one hundred-twenty reproduction centers around the country that would serve as repositories for materials.

PROCEDURES:

A staff, consisting of a director, assistant director, cataloger, two secretaries, technician, printer, ten graduate research assistants, consultants, and student helpers, will be assembled in order to implement the demonstration project. This staff will organize the materials, the center, and the local repositories; it will arrange for the distribution of materials and techniques; it will probe into methods of assessing the operation; and, it will function as a promoter of the concept. Specific procedures are described in the following manner.

In order to implement the first stated objective:

1. A coordinator will be selected from each of the twenty selected local school media production centers. (Use findings of USOE projects of Faris-Molstad, Bloodworth and Godfrey)
2. Each coordinator will:
   a. Screen and select masters for consideration by the national center.
   b. Gain clearance and check for copyright restrictions.
   c. Provide brief utilization notes and a credit line.
   d. Evaluate various aspects of the project.
3. The national center will evaluate, edit, and accept masters for duplication.
4. The national center will provide the staff and equipment necessary to prepare reproducible copies of the selected masters.

In order to implement the second objective:

1. The project core staff will assume the responsibility for establishing the proposed center and clearing house within the School of Education of the University of Massachusetts.
2. The staff will study submitted materials as one means of improving instruction within existing school and college curricula. The scope and sequence of the center's operation will be defined in relation to known available materials and in relation to needed materials. Once a matrix is prescribed, the cataloger-librarian will apply automated cataloging techniques (McMurray, University of Southern California - USOE Project) for easy storage and retrieval of masters at the center and all repositories.

3. Distribution arrangements will be worked out for the center, the local production centers, and the local materials repositories. This network will then be tuned into local school and college operations. Studies will be made of the impact of the demonstration project upon the contributing and cooperating schools.
4. Governmental, business, and industrial sources will be explored as a secondary source of materials, techiques, and ideas that might be incorporated into the center operation.
5. Studies will be made of the production aspects of the operation from concept to finished product in the hope of improving transparency quality. Periodic conferences will be held for the purpose of assessing project progress.
6. Appropriate promotion practices will be aimed toward the more widespread and effective utilization of overhead projection techniques and materials.
7. A national transparency workshop will be conducted each year involving transparency producers, users and subject specialists to assess project progress and determine needed procedures.

In order to implement the third stated objective:

1. Educators representing various kinds of media centers in designated geographic regions of the United States will be invited to participate in the demonstration project by establishing transparency repositories for their respective regions. One hundred of these local reproduction centers - plus the twenty production centers - have been planned for the demonstration project. Core staff members will assist in the establishment

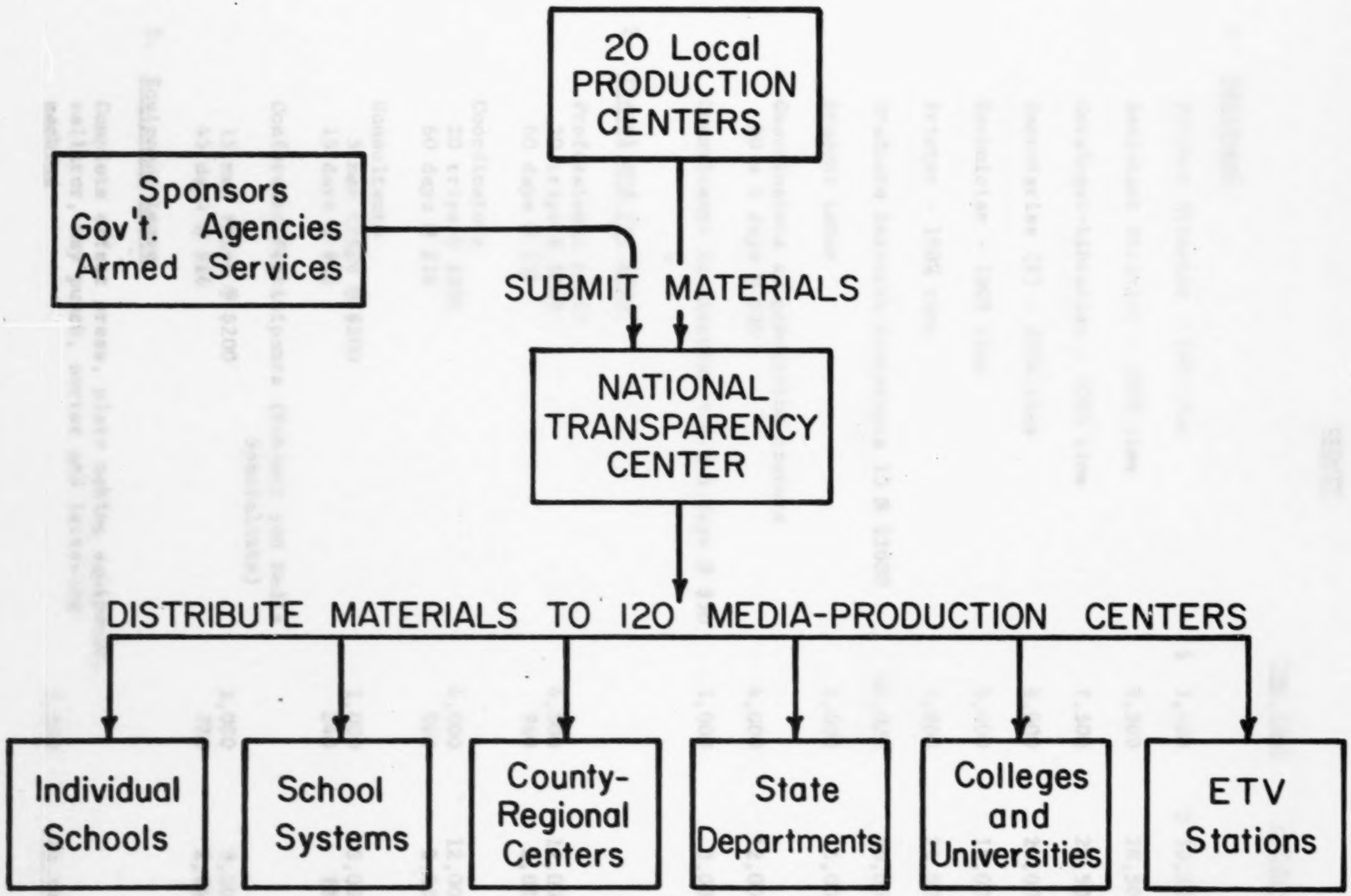
and organization of each of the local repositories.

2. Five hundred reproducible copies of each overhead projection master and corresponding automated cataloging punched cards will be prepared at the center and copies will be distributed to the various local repositories according to need. It will be the responsibility of the repository staff to store, reproduce, promote and diffuse the materials within its environ.

A diagram of the planned diffusion network has been conceptualized on the following page.

The project could be initiated in September, 1966 and it would extend through August of 1969 (157 weeks in all).

The Administrative Structure of the Proposed Clearing House Operation


20 Local PRODUCTION CENTERS
Sponsors Gov't. Agencies Armed Services
SUBMIT MATERIALS
NATIONAL TRANSPARENCY CENTER
DISTRIBUTE MATERIALS TO 120 MEDIA-PRODUCTION CENTERS
Individual Schools
School Systems
County-Regional Centers
State Departments
Colleges and Universities
ETV Stations

BUDGET

	Per Year	3 Years
1. **Personnel**		
Project Director - 20% time	$ 3,400	$ 10,200
Assistant Director - 100% time	9,500	28,500
Cataloger-Librarian - 100% time	7,500	22,500
Secretaries (2) - 100% time	8,000	24,000
Technician - 100% time	5,000	15,000
Printer - 100% time	7,000	21,000
Graduate Research Assistants 10 @ $3000	30,000	90,000
Student Labor	2,000	6,000
Coordinators at production centers 20 x 4 days @ $50	4,000	12,000
Consultants to director - 5 x 4 days @ $50	1,000	3,000
2. **Travel and Per Diem**		
Professional Staff		
20 trips @ $200	4,000	12,000
60 days @ $16	960	2,880
Coordinators		
20 trips @ $200	4,000	12,000
60 days @ $16	960	2,880
Consultants		
5 man trips @ $200	1,000	3,000
15 days @ $16	240	720
Conference Participants (Subject and Media Specialists)		
15 man trips @ $200	3,000	9,000
45 days @ $16	720	2,160
3. **Equipment Lease**		
Complete offset press, plate making equipment, collator, key punch, sorter and lettering machine	3,500	10,500

4. Supplies and Materials		
Printing and plate making supplies (2000 masters x 500 copies @ .03)	30,000	90,000
Automated cataloging materials	1,000	3,000
Office Supplies	500	1,500
Transparency Materials	500	1,500
Conference Materials	100	300
5. Communications		
Postage	1,000	3,000
Telephone	1,000	3,000
TOTALS	$129,880	$389,640